DOCUMENT RESUME

ED 051 457 AC 010 350

AUTHOR	Nave, Wallace K.
TITLE	Adult Basic Education Teacher Trainers: Their Characteristics, Attitudes, and Values.
INSTITUTION	North Carolina State Univ., Raleigh. School of Education.
SPONS AGENCY	Bureau of Adult, Vocational , and Technical Education (DHEW/OE), Washington, D.C.
REPORT NO	Monogr-1
BUREAU NO	BR-4-32028
PUB DATE	Jun 69
GRANT	OEG-0-70-4599(324)
NOTE	120p.
EDRS PRICE	EDRS Price MF-$0.65 HC-$6.58
DESCRIPTORS	*Adult Education, *Changing Attitudes, *Data Analysis, *Teacher Attitudes, *Teacher Education

ABSTRACT

The relationships between selected personnel and situational characteristics of adult basic education teacher trainers and their attitude toward adult basic education (A.B.E.) programs during a three-week period of intensive training were examined. Inherent within this examination was the evaluation of the effectiveness of the training period toward producing desirable and/or favorable changes in participants' knowledge and understanding of A.B.E. and attitudes toward the A.B.E. program. The following were selected as the independent variables for this research: age, sex, race, educational achievement, A.B.E. experience, and place of residence. Data was collected on these variables. The topics basic to the overall theoretical perspective employed here are presented in the following order: reference groups, attitudes, values, characteristics, review of related research, and hypotheses. The major statistical techniques employed in the analysis of data included analysis of variance, McNemar's test for significan changes, correlation, and chi-square. Although it was concluded that the subjects' attitudes became more favorable toward the A.B.E. program during their participation in training, the extent to which the content of the training influenced the change rather than outside factors was not determinable from available evidence. (CK)

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

ADULT BASIC EDUCATION TEACHER TRAINERS: THEIR CHARACTERISTICS, ATTITUDES, AND VALUES

ED051457

WALLACE K. NAVE

JUNE, 1969

ALC

ADULT LEARNING CENTER

School of Education, North Carolina State University, Raleigh, North Carolina

AC 010 350

1

ADULT LEARNING CENTER

The Adult Learning Center was approved and established as an experimental demonstration project in adult basic education in 1967 under the provisions of Section 309(b) of the Adult Education Act of 1966. The Center is an integral part of the research and development program of the School of Education at North Carolina State University. The purpose of the project is the identification, development, and evaluation of innovative curriculum materials and instructional methods that will accelerate and enhance learning in undereducated adults. Special emphasis has been placed upon investigations into the utilization of modern educational technology for the instruction of undereducated adults. A major concern of the Center is the development of packaged instructional materials and improved instructional methods which are capable of being institutionalized within adult basic education programs in public school systems. The Center is totally committed to the belief that its research and developmental efforts must give promise of materially improving the ongoing adult basic education program at all levels, local, state, and national.

The Center is part of the program conducted under the Auspices of the Bureau of Adult, Vocational, and Technical Education, Division of Adult Education Programs, Office of Education, U. S. Department of Health, Education, and Welfare. The program of the Center cuts across the Schools of Education, Agriculture and Life Sciences, Liberal Arts, and Physical Sciences and Applied Mathematics at North Carolina State University at Raleigh.

THE CENTER RESEARCH MONOGRAPH SERIES

The Center Research Monograph Series is the vehicle that has been established for publishing reports of research, evaluation, and developmental projects which are focused on crucial, penetrating problems relevant to improving the quality of adult basic education, the findings of which are relevant to a broad population or area of concern. In order for a report to be accepted for publication in the Center Research Monograph Series, it is required that the reports be reviewed by a panel appointed by the Director of the Center, in cooperation with the Principal Investigator of the Project, both in preliminary draft form and revised form, and that the members of the panel recommend that the report be accepted for publication. The Director of the Center is responsible for ascertaining that the project is relevant to the program of the Center, and that the objectives of the project have been attained.

ADDITIONAL INFORMATION

For additional information regarding the Center, please write to:

Dr. D. Barry Lumsden, Director
Adult Learning Center
P. O. Box 5096
North Carolina State University at Raleigh
Raleigh, North Carolina 27607

ED051457

ADULT BASIC EDUCATION TEACHER TRAINERS: THEIR CHARACTERISTICS, ATTITUDES, AND VALUES

WALLACE K. NAVE

DEPARTMENT OF ADULT AND COMMUNITY COLLEGE EDUCATION
NORTH CAROLINA STATE UNIVERSITY AT RALEIGH

* * * * * * * * * * *

The research reported herein was performed pursuant to a grant with the Office of Education, U. S. Department of Health, Education, and Welfare. Grantees undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

* * * * * * * * * * *

Center Research Monograph No. 1

ADULT LEARNING CENTER

North Carolina State University at Raleigh

Raleigh, North Carolina 27607

U. S. Department of Health, Education, and Welfare
Office of Education
Bureau of Adult, Vocational, and Technical Education
Division of Adult Education Programs
Project No. 432028, Grant No. OEG-0-70-4599(324)

1969

PREFACE

One of the major objectives of the Adult Learning Center is to communicate to concerned adult educators the findings and results of the Center's research efforts. This objective is being accomplished by conducting special workshops and training programs, holding orientation sessions, and developing a variety of publications.

This monograph reports the problem, design, and findings of research directly related to the Center's objective of adult basic education teacher training. Subsequent research reports will be published and distributed upon completion in an effort to disseminate the findings of research pertaining to the Center's objectives.

D. Barry Lumsden, Director
Adult Learning Center

June, 1969

TABLE OF CONTENTS

	Page
LIST OF TABLES	v
INTRODUCTION	1
Problem	1
Background Information	1
Objectives of the Study	5
Theoretical Perspective	6
Reference Groups	6
The Normative Function	7
The Comparative Function	8
Attitudes	10
Values	14
Characteristics	17
Review of Related Research	19
Hypotheses	26
METHODS AND PROCEDURES	31
Research Design	32
Selection and Preparation of Instruments	34
Personal and Situational Characteristics	35
Age and Sex	35
Race	35
Educational Achievement	35
A.B.E. Experience	36
Place of Residence	36
Cognitive Inventory	36
Affective Inventory	39
Major Value Orientations	42
Analysis of Data	46
DESCRIPTION OF SUBJECTS	47
Personal and Situational Characteristics	47
Race	47
Sex	47

TABLE OF CONTENTS (continued)

	Page
Age	50
Educational Achievement	51
A.B.E. Experience	52
Location of Present Residence	53
Major Value Orientations	54
DATA ANALYSIS	59
Cognitive Inventory	59
Affective Inventory	61
Correlation of Inventories	64
Major Value Orientations	65
Age	68
Sex	68
Race	68
Educational Achievement	69
A.B.E. Experience	69
Location of Present Residence	70
Attitudes	70
Age	70
Sex	73
Race	73
Educational Achievement	73
A.B.E. Experience	74
Location of Present Residence	74
Summary	74
DISCUSSION, CONCLUSIONS, AND IMPLICATIONS	77
Introduction	77
Discussion and Conclusions	78
Implications for Future Research	81
LIST OF REFERENCES	85
APPENDICES	89
APPENDIX A. Personal and Situational Characteristics	91
APPENDIX B. Cognitive Inventory	95
APPENDIX C. Affective Inventory	103
APPENDIX D. Summary of Personal and Situational Characteristics of Subjects	109

LIST OF TABLES

Text Tables

		Page
1.	Distribution of subjects according to random assignment to groups I and II by state and sex	32
2.	Distribution of subjects according to race and sex by age, educational achievement, A.B.E. experience, and location of present residence	48
3.	Study of value mean scores of college students and adult basic education teacher trainers	54
4.	Study of value mean scores of college students, teaching candidates, and A.B.E. teacher trainers by sex	56
5.	Analysis of variance of differences between pretest and posttest cognitive inventory scores for group I	60
6.	Analysis of variance of posttest cognitive inventory scores of group I and group II	61
7.	Pretest and posttest mean group scores on cognitive and affective inventories	61
8.	Analysis of variance of differences between pretest and posttest affective inventory scores for group I	62
9.	Distribution of subjects' direction of change in affective inventory scores from pretest to posttest for group I	63
10.	Analysis of variance of posttest affective inventory scores of group I and group II	64
11.	Pearson's product-moment correlation of changes in subjects' affective and cognitive inventory scores from pretest to posttest	65
12.	Association of selected independent variables with subjects scoring highest on the six value categories .	66
13.	Association of selected independent variables with subjects' attitude index	71

LIST OF TABLES (continued)

Appendix Tables

		Page
1.	Distribution of subjects according to specified age category and by sex	109
2.	Distribution of subjects according to specified marital status and by sex	109
3.	Distribution of subjects according to years of experience teaching in elementary school and by sex	110
4.	Distribution of subjects according to years of experience teaching in secondary school and by sex	110
5.	Distribution of subjects according to educational achievement and by graduate crecit	111
6.	Distribution of subjects according to years since highest degree and by graduate credit	111
7.	Distribution of subjects according to ones holding a teaching certificate and by ones taking the course for graduate credit	112
8.	Distribution of subjects according to primary wage earner and by A.B.E. employment status	112
9.	Distribution of subjects according to A.B.E. employment status and by sex	113
10.	Distribution of subjects according to A.B.E. classification and by sex	113
11.	Distribution of subjects according to A.B.E. experience and by A.B.E. employment status	114
12.	Distribution of subjects according to A.B.E. classification and by A.B.E. employment status	115
13.	Distribution of subjects according to A.B.E. classification and by ones having had previous in-service training	115
14.	Distribution of subjects according to age and by race	116

LIST OF TABLES (continued)

Page

15. Distribution of subjects according to state and by race 116

16. Distribution of subjects according to state and by place of residence (type of community) 117

INTRODUCTION

Problem

The main purpose of this study was to examine the relationships between selected personal and situational characteristics of adult basic education[1] teacher trainers, their major value orientations, and their attitude toward the A.B.E. program during a three-week period of intensive training. Inherent within the major purpose was the evaluation of the effectiveness of the training period toward producing desirable and/or favorable changes in participants' knowledge and understanding of A.B.E. and attitudes toward the A.B.E. program.

Background Information

Although literacy or basic education for adults is one of the oldest segments of the adult education movement in the United States, it has received little attention from social and behavioral science researchers. Attention to this problem has recently become a major thrust of the adult education field, and increased interest has been manifested by researchers concerning the A.B.E. teacher, the A.B.E. learner, and their interaction patterns within the community environment.

The Economic Opportunity Act of 1964[2] prompted immediate attempts to raise the educational level of adults who had completed less than

---

[1]Hereinafter referred to as A.B.E.

[2]The initial legislation was included in the Economic Opportunity Act of 1964, Title II-B; it is presently included in the Adult Education Act of 1966, Title III, of the Elementary and Secondary Education Amendments of 1966.

eight years of school. Due to the urgency of the situation and a lack of qualified teachers of adults, the undereducated adult learner was placed in learning environments dealing with the basic or fundamental skills usually taught to youth by teachers trained primarily in methods designed to provide satisfactory learning experiences for children.

According to the National Census, there has been a decline in the number and percentage of undereducated adults in the total population during the past 50 years, but adult illiteracy remains at a rather high level in this country. Even though the percent of persons 25 years old and over in the United States who had completed eight years of school or less declined from 48.3 in 1950 to 39.7 in 1960, this latter figure encompassed almost 39.5 million adults.[3]

Comparable percentage figures for the states and territories in Region III reflect an even greater proportion of adults who were in this category, and, even though the percentage declined in the region from 65.5 in 1950 to 50.9 in 1960, the total number actually increased to include more than 5.1 million adults.

From the relatively low levels of unemployment of recent years, one may surmise that most of the undereducated adults were gainfully employed, but, by virtue of the deficiency in their level of educational achievement, many have been unable to develop their skills and abilities

---

[3]United States Bureau of the Census, U. S. Census of the Population; 1960, General Social and Economic Characteristics, United States Summary, Vol. 1, p. 1-207.

to their fullest potential. Many have been, therefore, employed at menial, unskilled tasks and are required to assume sub-standard levels of living.

Efforts in A.B.E. have accelerated nation-wide since the enactment of the Economic Opportunity Act in 1964. In view of the fact that low levels of education appear to be a common characteristic of those considered to be economically disadvantaged, Title II-B of this Act proposed to initiate programs of instruction for individuals who have attained the age of 18 and whose inability to read and write the English language constitutes a substantial impairment of their ability to get or retain employment commensurate with their real ability.

The authors of the above-mentioned legislation recognized the dearth of qualified personnel in that the law specified an amount of funds to be used by the state agency directors to provide for training of persons to be engaged as instructors of undereducated adults. The Act also provided for the establishment of regional institutes to provide A.B.E. personnel from the various states with intensive training to develop their competencies to train other teachers on a local basis.

In the early stages of planning for in-service training programs for A.B.E. personnel, adult education leaders realized that there was a considerable void in the realm of research and knowledge related to a total literacy education program for adults. To a large extent, the early mode of planning A.B.E. programs and learning experiences

involved the transposition of teaching methods and learning principles appropriate for youth to the instruction of undereducated adults.

According to a comprehensive review of research on teaching by Getzells and Jackson (1963), numerous studies have been reported which had as their main concern the relationships between the teacher's characteristics, behavior, personality, etc., and student achievement. In his book Characteristics of Teachers, Ryans (1960) reports on a comprehensive study of the teacher and attempts to show the relationship between certain teacher characteristics and effective teaching. By and large, most educational research endeavors have been related to teachers of youth and youthful learners.

In recent years, some research has been directed toward the educational pursuits of adults and the adult as a learner. Principles of adult learning have evolved as a separate entity and attempts to account for the differences in the adult as a learner compared to the youthful learner. Research in adult education, generally, has assumed that the learner has achieved some minimum level of formal education and has not been particularly concerned with adult learning at the elementary level.

Approximately 220 A.B.E. teachers, teacher trainers, and supervisors from Region III[4] have participated in teacher-trainer institutes conducted by the Department of Adult and Community College Education

---

[4]Region III is the U.S.O.E. designation which encompasses the states of Kentucky, Maryland, North Carolina, Virginia, and West Virginia and the areas of the District of Columbia, Puerto Rico, and the Virgin Islands.

of North Carolina State University in the summers of 1966 and 1967. The subjects in this study were participants in the three-week institute conducted in 1967. The objectives of this institute, which constitutes the treatment in this research, were rather broad-based and were related to the philosophy of A.B.E., the socio-economic factors affecting the disadvantaged adult, adult learning, curriculum development, adult teaching methods and procedures, administrative functions, etc.

Objectives of the Study

The approach to the problem of this research was based upon and guided by the following specific objectives which were to:

A. Determine a measure of the subjects' knowledge and understanding of various aspects of the A.B.E. program before and after the three-week institute.

B. Determine a measure of the subjects' attitude toward the A.B.E. program before and after the three-week institute.

C. Determine the extent of change in the subjects' knowledge and understanding and their attitude toward the A.B.E. program during the three-week institute.

D. Examine the relationship between changes in the subjects' knowledge and understanding and their attitude toward the A.B.E. program during the three-week institute.

E. Develop a descriptive overview of selected personal and situational characteristics and values of the subjects.

F. Examine the relationship between the subjects' major value orientations and their resultant attitudes toward the A.B.E. program and the following personal and situational

characteristics: (1) age, (2) sex, (3) race, (4) educational achievement, (5) A.B.E. experience, and (6) place of residence.

Theoretical Perspective

The emphasis of this study was directed toward the attitudes, values, and characteristics of A.B.E. teacher trainers; therefore, the principal theoretical consideration underlying this research was drawn from social psychology. Attitudes, beliefs, values, and behavior are formed, changed, or otherwise influenced through social contact with other people and usually in a group context; therefore, reference group theory developed by Hyman (1960), Merton (1957), Shibutani (1955) and others provided the basic framework for this study.

The topics basic to the overall theoretical perspective employed here are presented in the following order: (1) reference groups, (2) attitudes, (3) values, (4) characteristics, (5) review of related research, and (6) hypotheses.

Reference Groups

The reference group concept has been employed as an analytic tool in social psychology concerning a variety of social phenomena as a means of understanding human behavior. A reference group, as broadly perceived, is a group the individual takes as a frame of reference for self-evaluation, attitude formation, and behavior (Merton, 1957, p.233).

The reference group concept has been developed to include various kinds of social formations: membership and non-membership groups, collectivities, and social categories. Some social structures fail

to meet the criterion of social interaction, are to be distinguished from groups, and are referred to in the literature as collectivities (Merton, 1957).

One's attitudes, identifications, values, and loyalties are generally derived from the values, norms, status regulations of the group or groups of which he is an actual member. Such group membership may be on an informal or formal basis. Informal membership is viewed as being in the choice of which the individual had no part (e.g., son of a family, member of an ethnic group, economic class, etc.). Conversely, formal membership implies that the individual had a choice in being a part (e.g., student in a college class; member of a club, organization, etc.) (Sherif, 1948).

One's attitudes, values, identifications, etc. may be regulated and determined to a large extent by his membership groups, but he may actually be a member of a particular group and psychologically refer himself to a different group and temper his attitudes and aspirations accordingly. In such cases, his reference group at that point in time may be something other than his membership group (Newcomb, 1952).

The reference group concept developed to this point has implied various functional kinds and types. It is generally agreed among sociologists (Kelley, 1952; and Merton, 1957) that a reference group may serve either of two functions which are used to describe relationships between man and a group--normative and comparative.

The Normative Function. This referent is used to denote a group in which one is motivated to gain or maintain acceptance and serves to set and enforce standards for the person and is usually labeled "group norms" (Kelley, 1952).

Since the subjects in this research--the institute participants--comprised a group of people in social interaction with behavioral patterns being established and with similar goals and objectives, they may be perceived as a reference group whose membership is of a formal nature and serves the normative function. This grouping of people would be expected to internalize the norms established by the group and organize their conduct according to group expectations (Shibutani, 1955).

The Comparative Function. The group to which the person refers as a reference point in making evaluations of himself or others is viewed as serving as the comparative function of reference groups (Kelley, 1952). Social categories are seen as being distinct from both groups and collectivities and are considered to be aggregates of social statuses in which the occupants are not necessarily in social interaction. Social categories have similar social characteristics such as sex, age, marital status, income, etc. but may not be oriented toward a distinctive and common body of norms. Since they have like statuses and similar interests and values, social categories can be mobilized into collectivities or into groups (Merton, 1957).

In discussing the common usage of the reference-group concept, Shibutani (1955, p. 563), in addition to the two functions mentioned above, contends that groups are used to structure one's perceptual field and that any "collectivity, real or imagined, envied or despised, whose perspective is assumed by the actor" becomes a reference group. He further contends that:

> The consistency in the behavior of a man in a wide variety of social contexts is to be accounted for, then, in terms of his organized perspective. Once one has incorporated a particular outlook from his group, it becomes his orientation toward the world, and he brings this frame of reference to bear on all new situations (Shibutani, 1955, p. 565).

All kinds of groupings then, with great variation in size, composition, and structure may become reference groups if it is their outlook which is used as a frame of reference in organizing one's perceptual field. It is recognized that membership groups may be of greatest importance as reference groups; but in some situations a person might assume the perspective of a social class, an ethnic group, those in a certain community, or others having some special interest (Shibutani, 1955, p. 565).

Certain personal and situational characteristics of the subjects including age, sex, race, educational achievement, A.B.E. experience, and place of residence were selected as the independent variables in this research. These social categories were perceived as reference groups which are nonmembership groups but may be used as a frame of reference by the individual as a standard or comparative point in making evaluative decisions and would serve a comparative function and account for variations in behavior.

As the subjects became involved in the institute program, they were interacting and reacting to the new situation, not only in terms of their perspectives of the norms and expectations of their new formal membership group, but were also evaluating, judging, and behaving in terms of the frames of reference or perspectives of previously-established reference groups.

Since the subjects' attitudes and values and their relationship to selected characteristics were of central concern in this research, further elaboration follows which examines their nature, formation, and relation to reference group theory.

Attitudes

The attitude of the A.B.E. teacher trainer toward the A.B.E. program is considered to be social in nature, and the feature that makes certain attitudes social is that they are formed in the context of social stimulus situations. Such social stimulus situations include persons, groups, and the products of human interaction--material and non-material [i.e., the man-made environment of things, technological devices, and values or norms (Sheriff, 1948)].

An individual's social attitudes cannot be formed or developed in a social vacuum but are acquired by relating oneself to a group or groups, either in a negative or positive manner (Newcomb, 1952).

Thurstone (1946, p. 39) refined his definition of attitude to mean "the degree of positive or negative affect associated with some psychological object". He refers to a psychological object as being any symbol, phrase, person, institution, or idea toward which people can differ with respect to a positive or negative feeling.

The terms affect and feeling are used synonymously in most references and indicate that a person who has associated positive affect or feeling with some psychological object is considered to like it or have a favorable attitude toward it.

Conversely, an individual having associated negative affect or feeling with some psychological object would be said to dislike that object or have an unfavorable attitude toward it (Edwards, 1957).

Numerous definitions of social attitude have been offered by social psychologists since its inception, and Stern (1963, p. 404) perceives these subsequent definitions as agreeing on four fundamental points:

A. Attitudes are socially formed. They are based on cultural experience and training and are revealed in cultural products.

B. Attitudes are orientations toward others and toward objects. They incorporate the meaning of a physical event as an object of potential or actual activity.

C. Attitudes are selective. They provide a basis for discriminating between alternative courses of action and introduce consistency of response in social situations of an otherwise diverse nature.

D. Attitudes reflect a disposition to an activity, not a verbalization. They are organizations of incipient activities and represent the underlying dispositional or motivational urge.

The concept of attitude as used in this study was paraphrased from that offered by Katz (1960, p. 168) which refers to the predisposition of the subject to make an evaluation of the various aspects of the A.B.E. program in a favorable or unfavorable manner.

Some writers (Krech et al., 1962; Secord and Backman, 1964; Katz, 1960) conceptualize attitude as consisting of three components: (1) feelings as the affective component; (2) thoughts as the cognitive

component; and (3) predispositions to act as the behavioral component. Other writers (Shaw and Wright, 1967, pp. 2-3) prefer to limit the attitudinal construct to an affective component based upon the cognitive process which is an antecedent to behavior; i.e., they consider an attitude to be an "evaluative reaction based upon evaluative concepts which are closely related to other cognitions and to overt behavior".

A basic assumption of this study was that attitudes are comprised of three components which include:

A. The affective or feeling component of liking or disliking.

B. The cognitive or knowledge and belief component which describes the object of the attitude.

C. The action component which refers to potential action or the predisposition to act.

Lecky (1945) attempts to explain much thought and behavior in terms of a single principle - the tendency of a person to be self-consistent. Several behavioral scientists have devoted considerable effort toward the development of systematic theories based upon the principle of consistency.

Rosenberg's (1960) theory of affective-cognitive consistency is reputed to be less encompassing and has not produced as much extensive empirical study as some of the other theoretical developments; however, it does have considerable merit in that it contributes to a better understanding of the nature of affective-cognitive components and their relation to each other.

Rosenberg (1960) postulates that if shifts occur in either affect or cognition, inconsistency arises and will produce a force which creates changes in the remaining component. This theory also shows linkage between cognitions about an attitude object with the individual's values, and further consideration will be given to the linkage between individual attitudes and value systems in the following sub-section.

A portion of this study is concerned with the change in attitude toward the A.B.E. program (the attitude object) and addresses itself to the affective and cognitive components of attitude. The assumption that attitudes of the subjects toward the A.B.E. program will become more favorable as a result of the treatment (institute program) is based upon the principle of consistency and draws from Rosenberg's theory of affective-cognitive consistency.

The basic assumption was that as the subjects internalized new knowledge through interaction with the "experts", outside assignments, and with others about various aspects of the A.B.E. program within the group context, there would be a restructuring of their understanding and beliefs or the cognitive component relative to the A.B.E. program, and, at the same time, there would be a reorganization or alteration in the feeling or affective component of the attitude which would tend to become more favorable toward the attitude object.

Although the subjects' attitudes toward the A.B.E. program were expected to become more favorable in the context of their new membership group, it was further assumed that the amount of attitude change or their resultant attitudes (scores on the posttest affective inventory)

would reflect the influence of their previously-established reference groups (the selected independent variables).

Values

Reference-group theory generally describes individuals as members of groups and centers on the processes through which men relate themselves to groups and refer their behavior to the values of these groups. Not only do the groups provide a standard against which the individual may evaluate himself and others; all of one's significant primary groups tend to teach him their values and shape these values in line with those of the group. During the various stages of life development, man adopts many of the central values of these groups (Riley and Riley, 1959).

A theory of valuing conceived by Catton (1959, p. 310) portrays the "socialized human being as the center of several socially induced fields of force which attract him toward various desiderata". A "desideratum", in this case, was viewed as anything some person desires at any point in time. It may be a material object, a social relationship, an item of information, or anything tangible or intangible denoted as "object of desire".

The term "value" in many instances has been used to imply some code or standard which persists through time, and is used as a criterion whereby people order their intensities of desiring various desiderata. To the extent that people are able to place objects, actions, ways of life, etc. on a continuum of approval-disapproval with some reliability, such responses to certain desiderata are perceived as being functions of culturally acquired values (Catton, 1959).

Williams (1966, p. 400) points out that what the individual experiences as values has the following qualities:

> (1) They have a conceptual element....are abstractions drawn from...immediate experience. (2) They are affectively charged: they represent actual or potential emotional mobilization. (3)...not the concrete goals of action, but rather the criteria by which goals are chosen. (4) Values are important....

The concept of value may be defined as an affective conception of the desirable which is socially acquired and is implied by a set of preferential responses toward qualities of objects, behavior, or social structures and systems (Catton, 1959; Williams, 1966).

Persons and social organizations are constantly being required to choose from among alternative courses of action. Such action may be manifest in overt or covert preferential behavior on the part of the actor. These preferences are usually patterned and are attributed to one's values or value systems. Value systems imply that certain values are arranged in some pattern, are interdependent, and subject to mutual variation (Williams, 1966).

It appears that there is a direct linkage of attitudes to value systems and that they undergird such systems. Value systems may be viewed as being comprised of specific attitudes organized into a hierarchical structure (Katz, 1960). Attitudes are generally thought of as pertaining to a single object; whereas value systems are regarded as orientations toward whole classes of objects and composed of many related attitudes (Secord and Backman, 1964).

Since values and their arrangement into hierarchies may be defined by choices, the criterion of choice seems to provide an

adequate way of empirically defining values (Williams, 1966). Values inferred directly from responses in reaction to symbolic desiderata or statements is one recognized approach to the study of values (Wilson and Nye, 1966).

In review of works which attempt to measure values inferred from statements or responses to verbal statements, Wilson and Nye (1966) have recognized The Study of Values published by Allport and Vernon in 1931 (since revised) as being the forerunner in this category. This value test was based upon Spranger's (1928) Types of Men which indicates that the personalities of men are most clearly reflected in their evaluative attitudes, i.e., their values. This test attempts to measure simultaneously the relative prominence of six basic interests in personality which include: The theoretical, economic, aesthetic, political, social, and religious.

An individual who responds to the test in a way which indicates consistently his preference for any given value must do so at the expense of one or more of the remaining five values. For most respondents, the scores on the six values may be ranked in the order of magnitude--the one ranked first would indicate a relatively higher interest in that value than in the others.

The Study of Values test was selected for use in the present study to determine the major value orientations of the subjects. Since the value ranked first by a subject is indicative of his greatest interest, this particular value will be considered as his major value orientation [e.g.,as defined by Allport et al. (1960) an individual whose highest score is in the social value is said to

have as his greatest interest a love of people]. This value, then, is to be considered his major value orientation since it holds first place in his hierarchy of the six values.

A basic assumption of the present research was that valuing behavior is a function of the socially acquired characteristics of the subjects and that differences in value orientations, as measured by The Study of Values, may be found to exist between categories within their previously-established reference groups (independent variables).

It was further assumed that the major value orientations of the subjects were composed of many related attitudes and are enduring over time; therefore, participation in the learning experiences of the institute (interacting with their new membership reference group) would not notably alter their value orientations.

Since no appreciable change was expected in their major value orientations during the short-term period of the institute, the subjects were asked to respond to the Study of Values test only once.

Characteristics

In the preceding treatment of reference-group theory, it was noted that an individual's attitudes and values are structured on the basis of group norms and expectations; such groups are used as a point of reference in making evaluative judgments. Although aggregates of social statuses - with similar social characteristics - do not meet the group criterion, Merton and others have indicated that they may be mobilized into groups and serve as reference groups.

Previous assumptions in the present study indicated that the subjects participating in the institute program formed a formal

membership type of reference group that served a normative function and that selected personal and situational characteristics of the subjects may also serve as reference groups of a non-membership-type which may be referred to by the subject as a standard or comparison point in evaluative decisions and serve a comparative function. The latter referent will serve as the independent variables in this study.

Although the knowledge and understanding and attitudes of the subjects were expected to change as a function of their new reference group, the extent of change or their resultant attitudes were perceived to be dependent, to some degree, upon the influence of their established reference groups. The study was not directed toward individual changes in cognitions and affect, except for determining group changes, but was concerned with examining the relationships between resultant attitudes of the subjects and their previously-established reference groups.

A review of research literature provided considerable insight for the selection of the more pertinent social characteristics employed as the independent variables. Numerous studies pertaining to the relationship between teacher attitudes measured by the Minnesota Teacher Attitude Inventory (MTAI) and selected teacher characteristics were summarized by Getzels and Jackson (1963). They categorized the various relationships of teacher characteristics as follows:

A. Teacher-training institution

B. Sex, teaching level, experience, etc.

C. Nature of subject matter taught

D. Teacher's failure of pupils; liking of teachers by pupils; effect of pupil's values

E. The effect of special courses, practice teaching, and amount of education.

The Teacher Characteristics Study by Ryans (1960) is reputed to be the single most extensive study of teachers and as being representative of the aims, methods, and findings of the work on the teacher's personality and behavior. Some of the personal and situational characteristics selected for the investigation in Ryans' study included: (1) age and experience, (2) sex, (3) marital status, (4) undergraduate college and academic success, and (5) size of school, size of community, socio-economic status of community, geographic area in which teaching was performed.

Based upon a synthesis of teacher characteristics drawn from the literature and upon observed differences manifested in various A.B.E. programs, the following were selected as the independent variables for this research:

A. Age

B. Sex

C. Race

D. Educational achievement

E. A.B.E. experience

F. Place of residence.

Review of Related Research

There is a limited amount of research in the field of Adult Basic Education which has implications for this study. This section

pertains to research which is related to the major concepts delineated in previous sections of this chapter.

Probably the most highly publicized piece of research in A.B.E. is a large-scale field test of four reading systems, in common use in A.B.E. classes, conducted by the Greenleigh Associates (1966) which attempted to evaluate the effectiveness of the systems with the adult students. Four reading systems were tested under three teaching situations or levels of academic preparation of the teachers which included: (1) certified teachers, (2) college graduates with no formal training or teaching experience, and (3) high school graduates. Selected teachers were given preservice orientation and training in the particular learning system they would be using.

The findings of the Greenleigh study indicated no significant differences in the student gain scores by reading systems; however, on the basis of Iowa Tests of Basic Skills scores, teachers who had no more than a high school education were more effective. The authors conjectured that this latter finding was due to the fact that the majority of the high school graduates, unlike the other two types of teachers, were Negro and the majority of the students were also Negro.

To obtain information on the "ideal" and "actual" characteristics of adult basic education teachers, Pearce (1966) surveyed A.B.E. students, instructors, and administrators. He found very little difference between how each of these three groups described the ideal basic education teacher. Although the emphasis and terminology were different, the characteristics were similar.

Some of the common characteristics Pearce (1966) found among the basic education teachers were reported as follows:

A. A wide experience in the world of work

B. An experience in working with sub-groups

C. A family background of:

1. Having been isolated

2. Having been raised in a provincial community

3. Having a single predominant parental figure

D. A strong belief in the value of human dignity.

Individuality was delineated as the most important single characteristic possessed by the teachers.

The effects of a short-term training course in changing the attitudes of teachers toward illiterate adults was the focus of a study by Johnson et al. (1968). The study was designed to measure attitude changes of 23 participants in an 18 hour teacher-training course who were subsequently employed as teachers of illiterates. The attitude instrument, consisting of 100 true-false items, was administered during the first session of the training and again during the final session six days later. The survey was again administered four months later after the previously inexperienced teachers had actually taught small classes of illiterate adults. The authors found that greater shifts in attitude coincided with the period of teaching experience than during the training course. The authors point out that although the results of the study may indicate that a short-term course is not effective in inducing long-term attitude changes, such a conclusion is a qualified one because

of: (1) a possible selective "sleeper effect" which delayed the occurrence of observable attitude change and (2) the possibility to moderate negative or unfavorable attitudes during the short-term course.

An attitude scale was developed by Adolph and Whaley (1967) preparatory to a study to determine the relative degree of favorable attitudes toward adult education among selected groups of participants in adult education programs. The adult subjects of the study were participating in three different subjects -- science, vocational training, and sailing. They found that: (1) 41 percent indicated a strongly favorable attitude, 41 percent a favorable attitude, and 18 percent a neutral attitude toward adult education; (2)the women were more favorably disposed toward adult education than were the men; and (3) those aged 22 to 32 were more favorable than those younger or older.

A Likert-type attitude scale was developed by Lipscomb (1966) to explore the attitudes of student teachers in elementary education before and after their student teaching experience to determine whether attitudinal change had occurred. The Lipscomb scale was administered during the spring semester to student teachers at the beginning and again at the end of their student teaching. The result indicated a highly significant degree of attitude change among the student teachers during this period of time.

One of the most widely used instruments for the measurement of teacher attitudes toward teaching is the Minnesota Teacher Attitude Inventory (MTAI). Beamer and Ledbetter (1957) examined the MTAI

scores of 212 students enrolled in graduate courses at North Texas State College. They found that female teachers (N=104) scored higher on the inventory than did males (N=60) and that elementary teachers (N=87) had higher scores than did secondary teachers (N=54).

Cook et al. (1956) report the findings of a study of the relationship between MTAI scores and the "amount of education" of teachers. Elementary teachers with two years of college education achieved a mean score of 21; those with four years scored 51; and those with five or more years obtained a mean score of 66. They conclude that the higher MTAI scores were directly affected by the increased richness of a full college education.

The MTAI was used in a study to investigate the relationship of measured anxiety, autonomy, deference, self-acceptance, and grade point average to change in attitude toward teacher-pupil relationships of prospective teachers as reported by Teigland (1966). The result of this study indicated that the group which changed toward a more positive attitude scored significantly higher on a deference scale and received significantly higher course grades.

In a study of 216 elementary and secondary school teachers, Lindgren and Patton (1958) found evidence to support the hypotheses that: (1) the attitudes of high school teachers are less favorable toward children and toward current educational theory and practice than those of non-high school teachers, and (2) that male teachers are likewise less favorably disposed than female teachers.

With regard to teaching experience, Ryans (1960) found that the less experienced teaching groups scored higher than the more

experienced groups on attitude toward democratic classroom practices. This study also reported that women generally tended to attain significantly higher scores than men on the scale measuring favorable attitudes toward democratic classroom practices. With the Basic Analysis Sample of teachers, significant differences between groups showed that the older teachers scored substantially lower than others on the scales measuring favorable opinions of pupils and democratic pupil practices.

An analysis of data related to size of community in the Ryans study suggests that teachers from smaller communities attained lower mean scores than did those from larger communities on favorable attitudes toward democratic practices in the classroom.

Rhyne (1968) studied the degree of attitude change as it related to attitude set, group learning method, and characteristics of race, age, and sex resulting from an eight-week institute dealing with problems of school desegration. He found that the degree of attitude change toward tolerance resulting from participation in the institute was greater: (1) on the rational-irrational anti-minority dimension of prejudice among subjects with high and medium social attitude sets than those with low social attitude sets and who were in the older age category than those in the younger grouping; and (2) on the rational (cognitive) pro-minority dimension of prejudice among subjects who were classed as old than among the younger subjects.

Rhyne also found that non-white subjects' attitude change in the direction of tolerance was greater on the social distance,

religious distance, and racial distance dimensions of prejudice than was that of the white subjects.

The Allport et al. Study of Values was employed by Kleyensteuber (1960) to study the evaluative attitudes held by administrators and teachers in a public high school in Wisconsin. It was found that administrators as a group tend to follow the attitude they hold in the economic value better than teachers and that teachers place a higher value on the aesthetic value than do administrators. A sample of Dartmouth College graduates responded to the Allport et al. Study of Values a second time after an interval of 15 years in a study conducted by Bender (1958). The report of this study indicated significant changes had occurred in three of the six value categories - theoretical, aesthetic, and religious - with the latter two making the greatest shifts. Theoretical and religious mean scores increased during this time while the remaining four had experienced decreases.

A longitudinal study of the stability of personal values as measured by the Allport et al. Study of Values was conducted by Whitely (1938). The Study of Values was given to college students once a year for the four years they were in college. The major purpose of this study was to determine changes over a period of time in any of the six values measured by this test. On the basis of the data analysis, the researcher concluded that the values were fairly stable; and the data revealed that there was a relatively high degree of constancy of the mean scores for the successive administrations of the test over these four years.

Cantril and Allport (1933) report the findings of a study of the efficiency of teachers which indicated little change in the value scores of college students after an interval of one semester. Cantril and Allport (1933, p. 271) report that Hartman suggests that the scale measures among other things:

> ...fundamental and enduring attitudes...which are established so firmly at an early age that modification is difficult or impossible.

In a summary of research with the Study of Values, Getzels and Jackson (1963) suggest that significant differences in values exist between teachers in different subject-matter (speciality) areas. They also conclude that in the "economic" and "social" values teachers, as a group, might be distinguished from the published norms.

Hypotheses

Consistent with the study objectives and undergirded by the conceptual assumptions and the findings of related research, certain hypotheses were developed to facilitate the analysis and to provide direction to the research.

The three-week institute served as the treatment in the present research and included not only the structured learning experiences directed by the institute staff but also the informal experiences and other uncontrolled events impinging upon the subjects during this period. It was assumed that, as the subjects interacted with the subject-matter content and with each other, the aggregate of subjects would evolve into a formal membership type reference group serving a normative function since they would be expected to

internalize the norms established by the group and organize their conduct according to the group's expectations.

The formal, structured institute program was designed to produce desirable changes (increases) in the subjects' knowledge and understanding (cognitions) of the A.B.E. program. According to the theory of affective-cognitive consistency, any appreciable change in one's cognitions would be accompanied by a change in one's affect in the same direction. It was also assumed that the subjects' cognitions of the A.B.E. program would increase as a result of the treatment, and concomitantly, the subjects' affect would become more favorable toward the A.B.E. program.

Hypotheses related to changes in cognition and affect include:

H_1. The subjects' knowledge and understanding (cognition) of the A.B.E. program will increase as a result of their participation in the institute (treatment).

H_2. The subjects' attitude (affect) toward the A.B.E. program will become more favorable as a result of their participation in the institute (treatment).

H_3. There will be concomitant changes in the subjects' cognitions and affect as a result of their participation in the institute (treatment).

The subjects' major value orientations were assumed to be composed of many related attitudes which are fairly stable and enduring over time. It was further assumed that valuing behavior was a function of the socially acquired characteristics of the subjects and that differences in value orientations exist between categories within their previously established reference groups (independent variables) which served as a comparative function.

Hypotheses related to the subjects' major value orientations and the independent variables include:

H_4. The major value orientations of the subjects will remain constant as age increases.

H_5. The major value orientations of the subjects will vary according to sex.

H_6. The major value orientations of the subjects will vary according to race.

H_7. The major value orientations of the subjects will remain constant as level of educational achievement increases.

H_8. The major value orientations of the subjects will remain constant as A.B.E. experience increases.

H_9. The major value orientations of the subjects will remain constant with variations in place of residence.

A basic assumption of this study was that the subjects' cognitions and affect would undergo changes as a function of their newly formed reference group. A subsequent assumption was that the extent of change or their resultant attitudes would be dependent upon the influence of their previously established reference groups (independent variables).

Hypotheses related to the subjects' resultant attitude toward the A.B.E. program and the independent variables include:

H_{10}. The subjects' attitude toward the A.B.E. program will be more favorable as age increases.

H_{11}. The subjects' attitude toward the A.B.E. program will be more favorable among females than among males.

H_{12}. The subjects' attitude toward the A.B.E. program will be more favorable among Negroes than among Caucasians.

H_{13}. The subjects' attitude toward the A.B.E. program will be more favorable as level of educational achievement increases.

H_{14}. The subjects' attitude toward the A.B.E. program will be less favorable as A.B.E. experience increases.

H_{15}. The subjects' attitude toward the A.B.E. program will be more favorable among the more highly urbanized residents than among the more rural residents.

METHODS AND PROCEDURES

The subjects in this study were participants in the National Teacher-Trainer Institute for Adult Basic Education, a three-week training program conducted by the Department of Adult and Community College Education at North Carolina State University in the summer of 1967.

Funding for the institute was provided by a grant from the U.S.O.E. of sufficient magnitude to train approximately 100 participants. A quota of A.B.E. personnel, based upon the regional proportion of undereducated adults in each state, was determined; the names of participants selected by the state A.B.E. directors were sent to the institute director for approval. To be consistent with the research design, the 98 participants selected were randomly divided into two groups. Sex and state were the only participant data available to the researcher prior to the institute and were the only factors used for control in the random division of the subjects.

As may be seen in the final distribution of assignments to groups in Table 1, the males from the District of Columbia and Virginia were not equally divided between groups, and Group I has two less subjects than Group II. These discrepancies arose after the original assignments and were due to late substitutions by the state A.B.E. directors to fill unexpected vacancies and to the fact that three female subjects planned to participate only during the first two weeks (they were assigned to Group II and were not available for the posttest and are not included in the analysis data).

Since the subjects were not randomly selected from a distinct population of A.B.E. teacher trainers, no attempt was made to make statistical inference to a specific population.

Table 1. Distribution of subjects according to random assignment to groups I and II by state and sex

State	N=	Group	Sex		Totals	
			Male	Female	Group I	Group II
District of Columbia	8	I	2	1	3	
		II	4	1		5
Kentucky	11	I	5	4	6	
		II	4	1		5
Maryland	13	I	3	3	6	
		II	4	3		7
North Carolina	19	I	6	4	10	
		II	6	3		9
Puerto Rico	13	I	5	2	7	
		II	4	2		6
Virginia	20	I	4	4	8	
		II	7	5		12
Virgin Islands	2	I	-	1	1	
		II	-	-		1
West Virginia	12	I	4	3	7	
		II	3	2		5
Total	98		61	37	48	50

Research Design

Plans for data collection and analysis were developed on a quasi-experimental basis utilizing the "separate-sample-pretest-posttest" design as explained by Campbell and Stanley (1963, pp. 223-224). This procedure involved the random division of the subjects; these groups are referred to as Group I and Group II.

Since changes in the subjects' cognitions and affect were to be determined, a measure of these components was attempted at the beginning and at the end of the three-week institute. As a means of controlling for any practice effect which responding to the instruments may have afforded, only Group I was asked to respond to the instruments as a true pretest on the first day of the institute; whereas, both groups responded to the instruments as a posttest at its conclusion.

With randomly selected groups, one may assume with some degree of reservation, that the mean pretest score for Group II would be similar to the mean pretest score of Group I. According to Selltiz *et al.* (1964, pp. 119-120), this procedure produces two groups with pretest (one assumed) and posttest scores. If one assumes that the pretest score for Group II is the same as that for Group I, changes in scores of Group II should be representative of changes produced as a result of participating in the institute (this does not take into account uncontrolled events impinging on both groups).

This design is schematically presented as follows:

Group I:

Pretest ——— Treatment plus Uncontrolled Events ——— Posttest

Assumed Pretest ——— Treatment plus Uncontrolled Events ——— Posttest

July 17 — Time Span — August 4

In an effort to avoid any Hawthorne effects within the two groups (i.e., unusual performance due to participation in a research study), none of the subjects was aware that the results of responses to instruments would be utilized for purposes other than evaluating the effectiveness of the institute nor that there had been any classification of subjects into groups. While Group I was responding to the real pretest, Group II was responding to a fake (placebo) pretest which appeared to be identical to the true test.

Verbal instructions were given to all subjects in one group sitting by the researcher. Upon completion of the instructions, the subjects were divided into four smaller groups and were assigned to four separate rooms where four special assistants distributed the pretest instruments. Subjects assigned to rooms one and two were the ones who had been randomly selected for Group I, and the remaining subjects (Group II) were assigned to rooms three and four. This same scheme was utilized at the time of the posttest and for the administration of the Study of Values test (administered at the mid-point of the institute).

Selection and Preparation of Instruments

In order to obtain the data for this study, it was necessary to administer four separate instruments. The selection and preparation of these instruments are discussed in the following order:

A. Personal and situational characteristics

B. Cognitive inventory

C. Affective inventory

D. Major value orientations

Personal and Situational Characteristics

In addition to the data required relative to the independent variables utilized in this study, numerous items of information were solicited from each respondent for use in this research as well as for use by the institute director for the necessary reports, proceedings, etc. A 22-item biographical data sheet was prepared in cooperation with the director to assure that pertinent data for all purposes were obtained in a single instrument (see Appendix A).

The personal and situational characteristics selected as the independent variables are further defined in the following subsections and summarized in Table 2, page 48.

Age and Sex. The subjects were asked to report their date of birth, and from this information, their age in years was determined. The ages were then stratified into three categories: (1) 34 years or less, (2) 35 to 44 years, and (3) 45 or more years. Sex was indicated by simply checking either male or female (see Table 2).

Race. The subjects were asked to indicate their race by responding to one of three categories: (1) Caucasian, (2) Negro, and (3) other (see Table 2).

Educational Achievement. There was expected to be considerable heterogeneity among subjects relative to this variable. They were asked to indicate their highest educational achievement which was categorized as: (1) high school graduate, (2) high school graduate plus some college, (3) Bachelor's degree, (4) Bachelor's degree plus additional credits, (5) Master's degree, (6) Master's degree plus additional credits, and (7) Ph.D. or Ed.D. (see Table 2).

A.B.E. Experience. This variable was considered from the standpoint of years of experience in the A.B.E. program. The subjects indicated their experience in the A.B.E. program by checking one of the following categories: (1) no experience, (2) one to two years, (3) three to five years, (4) six to ten years, and (5) 11 or more years (see Table 2).

Place of Residence. This variable was considered from the standpoint of the type of community where the subjects were currently residing. They indicated their type of community by checking one of the following categories: (1) urban--central city, (2) urban--outside central city, (3) rural non-farm, and (4) rural-farm (see Table 2).

Cognitive Inventory

One of the objectives of this research was to measure the changes in the participants' knowledge and understanding (cognition) of various facets of the A.B.E. program during the three-week training period.

Since the institute objectives were developed around the perceived needs of A.B.E. personnel from Region III, the subject-matter content and learning experiences were tailored toward the achievement of these specific objectives. Several well-known authorities in the various subject areas agreed to make presentations relative to the topics outlined and were to be consistent with the objectives of the formal institute syllabus.

The subject-matter consultants were asked to submit questions appropriate for inclusion in a testing instrument. These questions were mostly of the true-false and multiple choice type, but some

completion and open-ended questions were also submitted and included in the inventory. In addition to the questions contributed by the consultants, the researcher also incorporated into the instrument a series of true-false statements selected on their perceived appropriateness for the total institute program (see Appendix B).

Items which had alternative responses were the only ones employed in determining total raw scores for use in the analysis. As a means to correct for chance success in responding to an item, the following formula was employed in scoring each individual:

$$S = R - \frac{W}{K - 1}$$

where S = score

R = number of correct responses

W = number of wrong responses

K = number of alternative responses to each item

As a means of increasing item validity, the principle of item discrimination value was used according to the procedure outlined by Guilford (1965) to determine how sharply an item segregates persons higher on the scale of total raw score from those lower on the scale. This division of upper and lower scores was made at the median of the distribution of individual scores which resulted in 45 scores above and 50 below the median. The proportion of individuals passing each item was calculated for both groups; i.e., P_u and P_l.

Since the test scores had been dichotomized at the median, the proportions were then referred to an abac for a graphic

estimate of the phi coefficient (Ø). Final item selection was made on the basis of phi coefficients significant at the .01 level calculated from the following formula:

$$\phi_{.01} = \frac{2.576}{\sqrt{N}} = \frac{2.576}{9.71} = .265$$

where N is the number of subjects in both groups combined ($P_U + P_1$).

Of the 66 items in the test used in the item analysis, 30 were determined to have a sufficient discriminating power to be used in further refinement of the initial raw scores. These latter items are indicated in Appendix B with an asterisk preceding the item number.

For an estimate of reliability of the cognitive inventory, the Kuder-Richardson formula 20 was utilized. This formula is considered by Guilford (1965) to be superior to the split-half method of estimating reliability in that the use of item statistics avoids the biases as may arise from arbitrary splitting into halves. This formula is:

$$r_{tt} = \left(\frac{n}{n-1}\right)\left(\frac{\sigma_t^2 - \Sigma\, pq}{\sigma_t^2}\right)$$

where n = number of items in the test

p = proportion passing an item

q = 1 - p

σ_t^2 = variance for the total scores.

The estimate of reliability of the items in this test based upon the above formula was .7388 and was considered to be of sufficient reliability for the purpose of this research.

Affective Inventory

An extensive review of the literature yielded little success in delineating an existing instrument to measure attitudes toward the A.B.E. program. It was necessary to develop a scale for this purpose; i.e., to derive an indication of the subjects' appreciations, feelings, etc., (affect) toward the attitude object under consideration. After a review of the various approaches to attitude scale construction, the procedure employed for the scale development was the "method of summated ratings" as outlined by Edwards (1957).

The development of the instrument administered to the subjects (see Appendix C) had its genesis in the collection of about 60 statements reflecting an opinion regarding the A.B.E. program. These initial statements were perceived to be of a favorable, unfavorable, or neutral nature and were administered to a group of graduate students in the Department of Adult and Community College Education at North Carolina State University and to a group of professional A.B.E. personnel at the National Pre-Service Seminar for A.B.E. in Detroit, Michigan, in the spring of 1967. These groups were asked to respond to the statements and to indicate items that were unclear or inappropriate. The 45 statements in the final scale were selected on the basis of these pretests and recommendations of selected adult education professors.

The subjects were asked to indicate their "feeling" toward each statement on the basis of a five-point Lickert-type scale so weighted that the number accompanying their response would indicate their score for each item. The response alternatives and their weights are as

follows: strongly agree - 5, agree - 4, undecided - 3, disagree - 2, and strongly disagree - 1.

Individual raw scores were calculated by summing the item scores for each participant. In the case of statements representing an unfavorable opinion or feeling, the scoring of items was reversed from that mentioned above since disagreement with an unfavorable statement reflects a favorable disposition toward the object under consideration - the A.B.E. program. A mix of positively and negatively worded statements was maintained in an attempt to avoid a "response set".

The distribution of the responses of the 95 subjects to the posttest was utilized in an item analysis as a measure for selecting statements which had a greater power of discrimination. The 26 highest individual raw scores and an equal number of the lowest individual raw scores comprised the criterion groups by which to further evaluate the individual statements.

A t value for each statement was then determined using the following:

$$t = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{\Sigma(X_H - \bar{X}_H)^2 + \Sigma(X_L - \bar{X}_L)^2}{n(n-1)}}}$$

where $\bar{X}_H$ = the mean score on a given statement for the high group

$\bar{X}_L$ = the mean score on a given statement for the low group

n = the number in each group; i.e., $n = n_H = n_L$

$$\Sigma(X_H - \bar{X}_H)^2 = \Sigma X_H^2 - \frac{(\Sigma X_H)^2}{n}$$

$$\Sigma(X_L - \bar{X}_L)^2 = \Sigma X_L^2 - \frac{(\Sigma X_L)^2}{n}$$

A *t* value equal to or greater than 1.75 was considered as indicating a significant difference between high and low group average responses. Edwards (1957) indicates that the above procedure is valid if there are at least 25 subjects in each of the two groups.

All but three of the 45 statements possessed a *t* value greater than 1.75; but according to the literature, it is more desirable to limit the number of items in the final scale to 15 to 25. The subjects' raw attitude scores were further adjusted by summing their item scores for the 22 statements with the highest *t* values based upon the above item analysis. The items included in the final selection are indicated in Appendix C with an asterisk preceding the statement number, and statements receiving reverse scoring in the final scale are indicated with two asterisks.

The range of attitude scores was trichotomized so that nearly equal numbers were assigned to each segment. This resulted in the 33 subjects with lowest scores (80 to 91) being classified as low, the 33 subjects in the mid-range (92 to 99) as medium, and the 29 subjects with highest scores (100 to 110) as high. This distribution will be referred to as the attitude index.

To derive an estimate of reliability of the final attitude scale, the Spearman-Brown formula was employed as explained by Guilford (1965). This formula was designed to estimate the reliability of a test n times as long as the one for which a self-correlation is known. This formula is as follows:

$$r_{tt} = \frac{2r_{hh}}{1 + r_{hh}}$$

where r_{hh} stands for the correlation between halves of the test.

A coefficient of .7097 was calculated for one-half of the test correlated with the other half. This procedure involved the derivation of two split-half scores for each subject; one based on his item scores for odd-numbered items and the other on his item scores for even-numbered items. An estimate of reliability of the attitude scale based upon the above formula was determined to be .8302.

Major Value Orientations

According to the literature, one of the most widely used instruments to determine values or value orientations has been the Allport et al. (1960) Study of Values (originally published in 1931). After reviewing various possible measures of values, the above test was chosen for use in this study mainly because:

A. It had been standardized on a college population for which there were published norms by sex and certain occupational groups.

B. It is easy to administer and requires a minimum amount of explanation.

C. It is easily scored and has built-in checks for proper scoring.

The above value test attempts to measure the relative prominence of six basic values or motives in personality. This classification is based directly on the work of Eduard Spranger. Spranger's (1928) Types of Men defends the view that personalities of men are best known through a study of their values or evaluative attitudes.

A brief description of the six basic values follows (Allport et al., 1960, pp. 4-5):

A. The Theoretical. The interests here are empirical, critical, and rational. In the pursuit of goals, the ... individual takes a "cognitive" attitude, one that looks for identities and differences, ... divests itself of judgments, and seeks only to observe and to reason.

B. The Economic. ... interested in what is useful. His interest in utilities embraces the practical affairs of the business world....

C. The Aesthetic. The highest value here is found in form and harmony. Each single experience is judged ... for its own sake.

D. The Social. The highest value for this type is love of people. The social man prizes other persons as ends and is therefore himself kind, sympathetic, and unselfish.

E. The Political. The interest here is primarily in the power. The activities of the political man are not necessarily within the narrow field of politics; but whatever his vocation, he betrays himself as a Machtmensch.

F. The Religious. The highest value of the religious person may be called "unity". He is mystical and seeks to comprehend the cosmos as a whole, to relate himself to its embracing totality.

The test was so constructed that each subject receives a score for each of these value categories. A score of 40 is the average for any single value, and it is possible for a subject to obtain a profile that is nearly flat which indicates that his evaluative attitudes are equally favorable in all six categories. The test scores reflect relative values so that high scores on one or more values necessitates correspondingly low scores on others.

The authors of the test warn that the use of statistical analyses be employed with caution because of the interdependence of scores on one value with those of the other values. In a commentary early in the history of the test, Cantril and Allport (1933, p. 263) conclude that:

> In numerous studies of the interrelationship of tests for personality, low coefficients of correlation are usually found, a fact which, for some strange reason, often leads the investigator to dispair of the tests employed.... If correlations are obtained between the Study of Values and other personality tests, they should be regarded only as approximations, since the scores on a single value represent relative rather than absolute measures.

The instrument was tested for internal consistency and for repeat reliability following its revision in 1931. The mean reliability coefficient for split-half subscales on each dimension was .90. The mean repeat reliability coefficient was .89 for a one-month interval and .88 for a two-month interval (Allport et al., 1960).

To secure indices of value orientations, the Allport et al. (1960) Study of Values test was administered during the second week of the three-week institute to all 98 subjects participating at that time. The mean scores used in the comparison of the teacher trainers with other groups were computed from scores of the 98 responding to the test; whereas, only the scores of the 95 subjects participating in other posttests were included in the remainder of the analysis related to values.

One of the major interests of this study was to determine if significant differences existed within the independent variables (previously established reference groups) relative to major value orientations. Since there was the element of interdependence associated with scores on the six values, employment of some of the more popular or convenient statistical techniques could not be legitimized for use here with individual scores. McGinnies (1950, p. 30) has noted that since the "value scores are not strictly quantitative measures, they are useful only as indications of rank-order".

Each subject's score for each value was ranked according to its magnitude relative to other value scores; i.e., the value with the highest score was ranked number one, the value with the second highest score was ranked number two, etc. In some instances, two or more values received the same score; such values received identical ranks. Nine of the 95 subjects assigned first-place rank to two values. Values ranked first by the subjects were considered as their major value orientations and were the only ones included in this analysis.

Analysis of Data

The major statistical techniques employed in the analysis included the analysis of variance, McNemar's test for significant changes, correlation, and chi-square. The level of significance established for the purpose of hypothesis testing was .05. The services of the North Carolina State University Computer Center were utilized extensively for the major portion of the analysis; however, a desk calculator was used in some instances.

Null hypotheses H_{0_1} and H_{0_2} (numbers correspond to the research hypotheses on page 30) were tested with the F value derived by the analysis of variance. The McNemar test was also employed in connection with H_{0_2}. A t ratio for testing the significance of a correlation coefficient was used to test H_{0_3}. The chi-square test for independence was used to test the remaining null hypotheses -- H_{0_4} through $H_{0_{15}}$.

DESCRIPTION OF SUBJECTS

Consistent with the study objectives, this chapter is concerned with a descriptive overview of selected personal and situational characteristics (independent variables) and the major value orientations of the research subjects.

Personal and Situational Characteristics

The data used in connection with the independent variables discussed here were derived from the subject's responses to the instrument in Appendix A. Two of the variables, sex and race, were natural dichotomies; the remaining variables, age, educational achievement, ABE experience, and place of residence are summarized in Table 2 according to sex and race. Data pertaining to characteristics other than those above are summarized in Appendix D.

Race

All responses to the item concerning race were either Caucasian or Negro (none specified "other"), thus the natural dichotomy referred to above. The distribution of the subjects by race approximated a two-to-one ratio with 62 (65 percent) being Caucasian and 33 (35 percent) being Negro. Further discussion pertaining to race is included in subsequent paragraphs treating the remaining variables.

Sex

The ratio of male and female subjects was nearly the same as for race with 61 (64 percent) Caucasian males constituted the largest proportion of this division with the remaining 51 (54 percent)

Table 2. Distribution of subjects according to race and sex by age, educational achievement, A.B.E. experience, and location of present residence

Independent variables	N	Race: Caucasian N=62 Male N=44 Percent[a]	Caucasian N=62 Female N=18 Percent	Negro N=33 Male N=17 Percent	Negro N=33 Female N=16 Percent
Age (years)					
34 and under	32	41 (30)	12 (22)	28 (52)	19 (38)
35 to 44	33	61 (45)	12 (22)	12 (24)	15 (31)
45 and over	30	37 (25)	33 (56)	13 (24)	17 (31)
Educational achievement					
High school plus some college	6	33 (5)	50 (17)	-- --	17 (6)
Bachelor's degree	11	18 (5)	27 (17)	45 (29)	10 (6)
Bachelor's degree plus graduate work	42	38 (35)	14 (33)	17 (41)	31 (82)
Master's degree	17	65 (25)	6 (5)	23 (24)	6 (6)
Master's degree plus additional graduate work	19	69 (30)	26(28)	5 (6)	-- --
A.B.E. experience (years)					
Less than 1	24	54 (30)	17 (23)	17 (24)	12 (19)
1 to 2	53	40 (47)	17 (50)	21 (65)	22 (75)
3 to 5	12	66 (18)	17 (11)	17 (11)	-- --
6 or more	6	33 (.5)	50 (16)	-- --	17 (6)

ERIC 56

Table 2. (continued)

Independent variables	N	Race			
		Caucasian N=62		Negro N=33	
		Male N=44 Percent[a]	Female N=18 Percent	Male N=17 Percent	Female N=16 Percent
Location of present residence					
Urban, central city	31	29 (20)	16 (28)	26 (47)	29 (56)
Urban, outside central city	23	44 (23)	30 (39)	17 (24)	9 (13)
Rural non-farm	27	56 (34)	18 (28)	15 (24)	11 (18)
Rural farm	14	72 (23)	7 (5)	7 (5)	14 (13)

[a]Figures shown in parentheses represent percentage of category shown in column heading. Other figures represent percentage of the category of the independent variables.

being fairly evenly divided among Caucasian females (18), Negro males (17), and Negro females (16). Sex of subjects will receive further elaboration in subsequent sub-sections.

Age

The age of the subjects ranged from 20 to 69 years with 38 representing the median and 40.3 years being the mean. The age range was categorized into three age groups with a fairly even number of subjects in each group.

Of the 32 subjects under 35, 69 percent were male and 31 percent female; 53 percent were Caucasian and 47 percent Negro. This younger group included almost one-third (30 percent) of the Caucasian males, over one-half (52 percent) of the Negro males, less than one-fourth (22 percent) of the Caucasian females, and almost four out of ten (38 percent) of the Negro females.

Of the 33 subjects in the middle age group (35 to 44 years), almost three-quarters (73 percent) were male and 27 percent were female; this same distribution existed between Caucasian (73 percent) and Negro (27 percent) subjects. This group included the largest proportion of the Caucasian males (45 percent), 22 percent of the Caucasian females, nearly one-fourth (24 percent) of the Negro males, and almost one-third (31 percent) of the Negro females.

The older age category (45 and over) included an equal percentage (50 - 50) of males and females; seven out of ten were Caucasian and 30 percent were Negro. One-fourth of the Caucasian males were assigned to this older group as were the largest proportion (56 percent)

of the Caucasian females, nearly one-fourth (24 percent) of the Negro males, and about three out of ten (31 percent) of the Negro females.

Educational Achievement

It was anticipated that all subjects would have earned at least a Bachelor's degree, but six (6 percent) had not earned a college degree. Of the 89 subjects who had completed four years of college, only 11 (12 percent of total) had not completed graduate work. Well over one-third (36) had earned at least a Master's degree; and, of this number, 19 had done graduate study in addition to this higher degree.

Of those having achieved less than a college degree, five (83 percent) were Caucasian and two-thirds (67 percent) were females. Just over one-half (55 percent) of those whose highest achievement was the Bachelor's degree were Negro and 63 percent were male. The largest proportion (45 percent) in this category were Negro males.

The largest proportion of subjects (42) were found to have done graduate work in addition to the Bachelor's degree but had not earned a Master's degree. Of this group, 52 percent were Caucasian and 55 percent were male. Almost four out of ten (38 percent) of this group were Caucasian males and nearly one-third (31 percent) were Negro females.

Of the 17 subjects achieving a minimum level of a Master's degree, 71 percent were Caucasian and 88 percent were male. Almost two-thirds (65 percent) were Caucasian males and 23 percent were Negro males.

Two out of ten (20 percent) of the subjects had completed graduate work in addition to the Master's degree. All but one

(Negro male) of this group (95 percent) were Caucasian and almost three-fourths (74 percent) were males.

Of the Caucasian subjects, over one-half (55 percent) of the males and about one-third (33 percent) of the females had achieved at least a Master's degree. Three out of ten Negro males and only 6 percent of the Negro females had achieved this educational level. About 43 percent of all males and 20 percent of all females were in this category.

A.B.E. Experience

Data pertaining to this variable reflect the newness of the present emphasis in A.B.E. Only six subjects reported more than five years experience in the field of adult illiteracy. A large majority (77) of subjects had worked in the program only two years or less.

Of those reporting less than one year's experience, 71 percent were Caucasians and an equal number (71 percent) were males. Caucasian males constituted the largest proportion (54 percent) of this category while the Negro females made up the smallest (12 percent).

Over one-half (53) of the subjects had had from one to two years of A.B.E. experience with 57 percent being Caucasian and 61 percent being male, and four out of ten of the subjects in this category were Caucasian males.

More than eight out of ten (83 percent) of the subjects with three to five years of experience were Caucasian, and the same percentage was male. There were no Negro females included in this category.

All but one of the six subjects with six or more years of experience were Caucasian, and two-thirds were female. Half of this number were Caucasian females, and none of the Negro males were included in this category.

Location of Present Residence

Well over half (54 or 57 percent) of the subjects resided in an urban setting. The category with the largest number of subjects (31) was urban-central city followed closely by rural non-farm with 27. Only 14 of the subjects reported living in rural-farm areas.

Of those in the urban-central city category, over one-half (55 percent) were Negro and 55 percent were male. An equal percentage of subjects (29 percent) was Caucasian males and Negro females, and 26 percent were Negro males.

Of the 23 designating their residence as urban-outside central city, almost three-fourths (74 percent) were Caucasian; and 61 percent were male. The Caucasian males constituted the largest proportion (44 percent) of this category and Caucasian females second largest (30 percent). The same racial distribution as in the preceding paragraph existed in the rural non-farm sector; however, 71 percent of this group were males with 56 percent being Caucasian males.

Of the 14 subjects from rural-farm areas, 11 were Caucasian and 11 were male. Ten of these subjects were Caucasian males.

Major Value Orientations

Another objective of the study was to determine the major value orientations of the subjects. In order to make these determinations, subject responses to the Allport et al. (1960) Study of Values test were used to rank-order individual mean scores for each of the six value categories which the test attempts to determine.

The subjects' mean scores for each value category were also determined and are presented below and are compared with those of the general norms for the test manual and with a large sample of education students as reported in the literature.

As shown in Table 3, the dominant values (those above the 40 average) of the research subjects from highest to lowest were religious--interest in unity; social--love of people; and theoretical--empirical, critical, and rational. The values of least importance from highest to lowest were economic--utilitarian; political--interest in power; and aesthetic--interest in form and harmony. Clearly, the highest and lowest values of this group were religious and aesthetic respectively.

Table 3. Study of value mean scores of college students and adult basic education teacher trainers

Group	Theo-retical	Eco-nomic	Aes-thetic	Social	Polit-ical	Reli-gious
College students[a] N=8369	39.80	39.45	40.29	39.34	40.61	40.51
Adult basic education teacher trainers N=98	41.09	39.12	34.37	41.79	38.95	43.65

[a]These data are given in the test manual as the general norms (Allport et al., 1960, p. 11).

Included in the Allport et al. (1960) test manual are the mean scores for 8,369 college students which constitutes their general norms; these scores are also shown in Table 3 for comparison by inspection. The mean scores for a group this large approaches the theoretical mean of 40 for each value; however, the three highest scores in descending order are political, religious, and aesthetic. The lowest interest value of the norm group was social.

In comparing the mean scores in Table 3 for the two groups, one finds that the religious value is the only one that is common among the dominant values and that economic is the common value among the less important values.

The authors of the test indicate that there are decided differences between values held by males and females and that comparisons of individual scores should be made only with scores of the same sex. They include a breakdown of the general norms by 5894 males and 2745 females; these mean scores are shown in Table 4. A comparison of value scores of the college students discloses a pattern between scores by sex; i.e., the males held as their highest values the political, theoretical, and economic; whereas, the females were more favorably disposed toward the aesthetic, religious, and social value categories.

In a similar comparison of the mean scores of the teacher trainers by sex, apparent differences exist. The dominant values of the males were the theoretical and religious with political and economic mean scores being slightly above the theoretical mean. The females scored above the value average on the religious and social

Table 4. Study of value mean scores of college students, teaching candidates, and A.B.E. teacher trainers by sex

Sex and group	Theoretical	Economic	Aesthetic	Social	Political	Religious
Male						
College students[a] N = 5894	43.09	42.05	36.72	37.05	43.22	37.88
Teaching candidates[b], U.C.L.A. N = 658	43.60	37.80	38.90	40.00	41.50	37.50
A.B.E. teacher trainers N = 61	43.36	40.21	33.57	39.97	40.38	42.70
Female						
College students[a] N = 2475	36.50	36.85	43.86	41.62	38.00	43.13
Teaching candidates[b], U.C.L.A. N = 1067	38.00	36.40	43.40	41.30	38.60	40.90
A.B.E. teacher trainers N = 37	38.82	38.03	37.16	43.61	37.51	44.59

[a]These data are given in the test manual as sex differences of the general norms (Allport et al., 1960, p. 11).

[b]These data are given by Maclean et al. (1955, p. 673). N for males on political was 657. N for females on theoretical was 1066 and on economic was 1067.

values. Religious was the only common dominant value among the male and female subjects of the present study. Both sexes scored lowest on the aesthetic value.

Maclean et al. (1955) compared the scores of 1725 teaching candidates at U.C.L.A. on the Study of Values test with the general norms. Even with such a large sample, obvious differences existed among values and between sexes. The mean scores from the U.C.L.A. study are also included in Table 4 for comparison in the present study.

The dominant values of the male teaching candidates were theoretical and political with social being at the 40 average. The female candidates held as their dominant values aesthetic, political, and religious. The value categories with the lowest mean scores for male and female candidates were religious and economic respectively.

By comparing the mean scores of the teaching candidates and teacher trainers with the general norms by sex, one finds little difference between the three male groups on the theoretical value, but that an array of contrasts exists on the remaining ones. Both teaching groups scored below the norms on the economic and political value and above on social. The U.C.L.A. males scored higher and the teacher-trainer males scored lower than the norms on the aesthetic value.

Both female education groups scored higher on the theoretical value than shown for the norms. The U.C.L.A. females' scores were quite similar to the norms on the remaining values with the exception of the religious value which was the lowest of the three-way comparison. The teacher-trainer females scored higher on the religious

and social values and lower on the aesthetic value than did either of the other groups of females.

Differences existing between mean scores of the subjects and those of the general norms and teaching candidates in the foregoing discussion may be due to the relatively small sample; however, observable differences also exist between scores of the two larger samples.

DATA ANALYSIS

The purpose of this chapter is to present the results of data analysis related to the hypotheses of the study and to discuss the relationships disclosed through the analysis. The order of presentation is as follows: (1) cognitive inventory, (2) affective inventory, (3) correlations of inventories, (4) major value orientations, and (5) attitudes related to the independent variables.

Cognitive Inventory

One of the major assumptions of this study was that the subjects' knowledge and understanding (cognitions) of the A.B.E. program would increase as a result of their participation in the three-week institute (treatment). The null hypothesis related to this assumption was: There is no difference in the subjects' cognitive inventory scores from pretest to posttest. A summary of the analysis of variance of pre- and posttest scores for Group I on the cognitive inventory is presented in Table 5.

The average increase or change in cognitive scores was 17.77 points, and the range of increase was from one to 38 points. The large F value is highly significant at the .005 level of confidence; therefore, the null hypothesis is rejected and the alternate hypothesis H_1 indicating a real or true difference in the direction of increased scores is accepted.

According to the research design, the mean cognitive score for Group II would likely be similar to the mean score for Group I

Table 5. Analysis of variance of differences between pretest and posttest cognitive inventory scores for group I

Source of variation	df	Sums of squares	Mean square	F	P
Between (pre vs. Post)	1	15158.52	15158.52	265.99	.005
Within groups	47	2678.48	56.99		
Total	48	17837.00			

since the subjects were randomly assigned to groups. Using the same rationale, the posttest scores of the two groups would be similar unless Group I was afforded the advantage of a carryover or practice effect from having interacted with the items on the instrument less than three weeks previously.

An analysis of variance was made to determine if any significant differences existed between the mean posttest scores of the two groups; a summary of these data is presented in Table 6. The F value was not of sufficient magnitude to be significant at the .05 level; therefore, it was concluded that there was no difference in posttest scores between Group I and Group II.

The mean before-and-after scores are shown in Table 7. If there had been a practice effect inherent in Group I subjects' ability to perform on the posttest, their mean posttest score would have to have been significantly greater than that of Group II. The reverse of this was true although not significantly different; therefore, it was concluded that there was negligible, if any, practice effect associated with the subject's responses to the cognitive inventory posttest.

Table 6. Analysis of variance of posttest cognitive inventory scores of group I and group II

Source of variation	df	Sums of squares	Mean square	F	P
Between groups (I vs. II)	1	318	318	2.355	N.S.
Within groups	93	12601	135		
Total	94	12919			

Table 7. Pretest and posttest mean group scores on cognitive and affective inventories

Inventory	Group	N	Mean Scores		Mean Difference
			Pretest	Posttest	
Cognitive	I	48	19.0	36.77	17.77
	II	47		40.43	21.43[a]
Affective	I	48	91.83	96.52	4.69
	II	47		94.30	2.47[a]

[a]Computation based upon an assumed pretest score equal to that of Group I.

Affective Inventory

Another assumption of the study was that through participation in the three-week institute, the subjects' attitude (affect) toward the A.B.E. program would become more favorable. Based upon the subjects' responses to the affective inventory before and after the institute training (treatment), the following null hypothesis was tested: (There is no difference in the subjects' affective inventory

scores from pretest to posttest. A summary of the analysis of variance of pre- and posttest scores from Group I on the affective inventory is given in Table 8.

Table 8. Analysis of variance of differences between pretest and posttest affective inventory scores for group I

Source of variation	df	Sums of squares	Mean square	F	P
Between (pre vs. post)	1	1055	1055	18.528	.005
	47	2676	56.94		
Total	48	3731			

The McNemar (Siegel, 1956) test for the significance of change including the correction for continuity resulted in a chi-square value of 7.85 with one degree of freedom and was significant at the .01 level.

The McNemar test formula including the correction for continuity is as follows:

$$X^2 = \frac{(|A - D| - 1)^2}{A + D} \qquad \text{with df} = 1$$

where: A = number of subjects whose score changed in a negative direction or which became less favorable.

D = number of subjects whose score changed in a positive direction or which became more favorable.

A summary of the subjects' direction of change in affective inventory scores from pretest to posttest is shown in Table 9.

The range of decrease in scores for the 13 subjects in cell A was from a minus one to a minus eight with a mean decrease of -4.08. The range of increase in scores for the 33 subjects in cell D was from two to 33 with a mean increase of 8.42. Since the test is only concerned with the subjects whose score changed, the two subjects whose score did not change were arbitrarily assigned to cell C.

Table 9. Distribution of subjects' direction of change in affective inventory scores from pretest to posttest for group I

	Posttest						
	Negative		Positive				
Pretest	Cell	Number	Cell	Number	df	x^2	p
Positive	A	13	B	--	1	7.85	.01
Negative	C	2	D	33			

Based upon the information revealed by the highly significant F value in Table 8 and the above chi-square value, the above null hypothesis is rejected and the alternate hypothesis H_2 which indicates a significant change in affective inventory scores (attitude) in a favorable direction from pretest to posttest is accepted.

An analysis of variance was made to determine if any significant difference existed between the posttest affective inventory scores of the two groups. These data are summarized in Table 10. The F value was not significant at the .05 level; therefore, it was concluded that there was no difference in the posttest affective inventory scores between groups.

Table 10. Analysis of variance of posttest affective inventory scores of group I and group II

Source of variation	df	Sums of squares	Mean square	F	P
Between groups (I vs. II)	1	119	119	2.052	N.S.
Within groups	93	5398	58		
Total	94	5517			

Based upon the assumptions inherent within the research design regarding similar pretest scores due to random assignment and the non-significant F value, it was concluded that little or no practice effect was associated with the responses to the affective inventory posttest by Group I. Before and after mean scores by groups are presented in Table 7.

Correlation of Inventories

Based upon the cognitive-affective consistency theory advanced by Rosenberg (1960), it was anticipated that an increase in the subjects' knowledge and understanding (cognitions) about A.B.E. as a result of attending the three-week institute (treatment) would be accompanied by a change in their feeling (attitude) toward the A.B.E. program in a favorable direction. This rationale led to a test of the following null hypothesis: There is no correlation between changes in the cognitive and affective inventory scores of the 48 subjects in Group I from pretest to posttest.

The results of this correlation are summarized in Table 11. The mean difference or change in cognitive inventory scores was 17.77

and for affective inventory scores was 4.69 (see Table 7). The correlation coefficient, .1257, was not significant at the .05 level. A t ratio for testing the significance of a coefficient of correlation was calculated to be 1.2166 and was not significant at the specified acceptance level; therefore, the null hypothesis is accepted which indicates that no positive correlation existed between differences or changes between the two inventories from pretest to posttest and the alternate hypothesis H_3 is rejected.

Table 11. Pearson's product-moment correlation of changes in subjects' affective and cognitive inventory scores from pretest to posttest

Inventory difference scores	Means	Standard deviation	r	p
Cognitive	17.7708	7.5491	.1257	N.S.
Affective	4.6875	7.5460		

Analysis of group data revealed that the subjects in Group I experienced positive change in both cognitions and affect during the institute training period. However, on an individual basis, concomitant changes as hypothesized were not in evidence.

Major Value Orientations

An analysis of the major value orientations held by the subjects as related to the independent variables is presented in the following sub-sections and is summarized in Table 12.

Table 12. Association of selected independent variables with subjects scoring highest on the six value categories

Variables	N[a]	Value category: Theoretical Percent	Economic Percent	Aesthetic Percent	Social Percent	Political Percent	Religious Percent	df	X^2	P
Age (years)										
Under 35	34	23	12	6	15	9	35	10	9.45	N.S.
35 to 44	35	20	12	12	8	11	37			
45 and older	35	14	20	--	26	9	31			
Sex										
Male	67	24	18	5	12	10	31	5	7.16	N.S.
Female	37	11	8	8	24	8	41			
Race										
Caucasian	70	17	20	7	9	13	34	4	16.10	.01
Negro	34	24	3	3	32	3	35			
Educational achievement										
Bachelor's degree or less	18	28	--	5	17	17	33	15	12.36	N.S.
Bachelor's degree plus graduate work	46	17	13	9	11	7	43			
Master's degree	19	21	16	--	26	16	21			
Master's degree plus additional graduate work	21	14	29	5	19	5	28			

Table 12. (continued)

Variables	N[a]	Value category: Theoretical Percent	Economic Percent	Aesthetic Percent	Social Percent	Political Percent	Religious Percent	df	X^2	P
A.B.E. experience (years)										
None	26	23	23	3	12	12	27	10	3.93	N.S.
1 to 2	58	17	12	7	19	9	36			
3 or more	20	20	10	5	15	10	40			
Location of present residence										
Urban, central city	34	14	11	3	26	9	37	15	5.19	N.S.
Urban, outside central city	23	32	9	9	9	9	32			
Rural non-farm	31	19	16	3	16	10	36			
Rural farm	16	13	25	13	6	12	31			

[a]N represents the number of values assigned first-place ranking by the subjects in each specified category. Total N for each variable = 104.

Age

The null hypothesis tested was: There is no difference in the subjects' major value orientations and age categories. The X^2 value of 9.454 with 10 degrees of freedom as shown in Table 12 is not significant at the .05 level; therefore, the null hypothesis is accepted. No evidence was found here to indicate that the major value orientations of the subjects vary as age increases; therefore, the alternate hypothesis H_4 is also accepted. This finding tends to support the assumption that values are fairly stable and enduring over time.

Sex

The null hypothesis tested was: There is no difference in the subjects' major value orientations by sex comparisons. The X^2 value of 7.155 with five degrees of freedom was not significant; therefore, the null hypothesis is accepted. The hypothesis H_5 which suggests that value orientations will vary according to sex is rejected. This finding is contrary to related research findings relative to sex differences. The reported differences were primarily based on differences between means and consideration to the element of interdependence between value categories was ignored; whereas, sex differences measured in the present study was based on a rank-order arrangement.

Race

The null hypothesis tested was: There is no difference in the subjects' major value orientations by race. The X^2 value of 16.095 with five degrees of freedom was highly significant at less than .01 level. The null hypothesis is rejected and the alternate hypothesis

H_6 which indicates that there are differences in major value orientations according to race of the subjects is accepted.

The largest proportion of subjects of each race indicated their greatest interest in the religious value. The largest contrasts between race by value indicated that a greater proportion of first rank assignments by the Caucasian subjects were in the political and economic values; whereas, a larger proportion of the Negro subjects assigned greater interest to the social value than the other subjects.

Educational Achievement

The null hypothesis tested was: There is no difference in the subjects' major value orientations and educational achievement. This hypothesis is accepted since the X^2 value of 12.355 with 15 degrees of freedom was not significantly greater than zero. The alternate hypothesis H_7 is also accepted since no evidence was found to indicate that value orientations of subjects do vary as the level of educational achievement increases.

The data related to this hypothesis in Table 12 has been partially collapsed in that the six subjects with less than a Bachelor's degree were grouped with those with a degree. A X^2 value of 20.228 with 20 degrees of freedom was computed before the data were grouped and was also found to be not significant at the .05 level.

A.B.E. Experience

The null hypothesis tested was: There is no difference in the subjects' major value orientations and A.B.E. experience. The X^2 value of 3.931 with 10 degrees of freedom was not significant; therefore, the null hypothesis is accepted. The alternate hypothesis H_8 which

suggests that values will remain constant as A.B.E. experience increases is also accepted.

A X^2 value of 18.148 with 20 degrees of freedom was computed for five categories of A.B.E. experience and was found to be not significant. Since there were only four subjects with six to 10 years experience and two with 11 or more years, they were grouped with the 12 in the three to five year category and are shown in Table 12 as having three or more years of A.B.E. experience.

Location of Present Residence

The null hypothesis tested was: There is no difference in the subjects' major value orientations and location of present residence. The X^2 value of 5.189 with 15 degrees of freedom was not significant. The null hypothesis is accepted and the alternate hypothesis H_9 which indicates that value orientations of the subjects will remain constant with variations in place of residence is also accepted.

Attitudes

This section deals with the subjects' attitude toward the A.B.E. program according to their attitude index placement compared with categories within the independent variables. The data related to this analysis are summarized in Table 13.

Age

The null hypothesis tested was: There is no difference in the subjects' attitude toward the A.B.E. program by age categories. The null hypothesis is accepted since the X^2 value of 1.749 with four degrees of freedom was not significantly greater than zero. The

Table 13. Association of selected independent variables with subjects' attitude index[a]

Independent variables	N	Attitude index: Low N=33 Percent	Medium N=33 Percent	High N=29 Percent	df	X^2	P
Age (years)							
Under 35	32	34	34	32	4	1.75	N.S.
35 to 44	33	43	30	27			
45 and older	30	27	40	33			
Sex							
Male	61	33	33	34	2	1.22	N.S.
Female	34	38	38	24			
Race							
Caucasian	62	37	37	26	2	1.88	N.S.
Negro	33	30	30	40			
Educational achievement							
High school plus some college work	6	33	67	--	8	16.31	.05
Bachelor's degree	11	55	9	36			
Bachelor's degree plus graduate work	42	22	45	33			
Master's degree	17	35	41	24			
Master's degree plus additional credits	19	53	10	37			

Table 13. (continued)

Independent variables	N	Attitude index[a] Low N=33 Percent	Medium N=33 Percent	High N=29 Percent	df	X^2	P
A.B.E. experience (years)							
Less than 1	24	42	33	25	4	4.01	N.S.
1 to 2	53	38	30	32			
3 or more	18	17	50	33			
Location of present residence							
Urban, central city	31	16	39	45	6	11.27	N.S.
Urban, outside central city	23	43	35	22			
Rural non-farm	27	48	22	30			
Rural farm	14	36	50	14			

[a]Attitude index refers to the distribution of scores on the posttest affective inventory according to the following trichotomy: low -- 80 to 91, medium -- 92 to 99, and high -- 100 to 110.

alternate hypothesis H_{10} indicating that attitudes toward the A.B.E. program are more favorable as age increases is not supported.

Sex

The null hypothesis tested was: There is no difference in the subjects' attitude toward the A.B.E. program by sex categories. The X^2 value of 1.222 with two degrees of freedom was not significant at the .05 level; therefore, the null hypothesis is accepted. The alternate hypothesis H_{11} which suggests that females possess a more favorable attitude toward the A.B.E. program is rejected.

Race

The null hypothesis tested was: There is no difference in the subjects' attitude toward the A.B.E. program by race categories. The X^2 value of 1.875 with two degrees of freedom was not significant and supports the null hypothesis. The alternate hypothesis H_{12} is rejected; and, based upon this evidence, it is concluded that the attitude toward the A.B.E. program held by Negro subjects did not differ significantly from that held by Caucasian subjects.

Educational Achievement

The null hypothesis tested was: There is no difference in the subjects' attitude toward the A.B.E. program by level of educational achievement. The X^2 value of 16.310 with eight degrees of freedom is significant at less than the .05 level; therefore, the above hypothesis is rejected. The alternate hypothesis H_{12} is also rejected since it suggests a positive association between attitudes and educational achievement. A negative relationship may be seen by examining the percentage distribution in Table 13.

It has been determined that there is a difference in attitudes of the subjects toward the A.B.E. program as level of educational achievement increases; the negative association indicates that attitudes are less favorable among subjects having achieved higher levels of education.

A.B.E. Experience

The null hypothesis tested was: There is no difference in the subjects' attitude toward the A.B.E. program by level of A.B.E. experience. The null hypothesis is accepted since the X^2 value of 4.009 with four degrees of freedom was not significantly greater than zero. The alternate hypothesis H_{14} suggesting that the subjects' attitudes toward the A.B.E. program are more favorable as level of A.B.E. experience increases is rejected.

Location of Present Residence

The null hypothesis tested was: There is no difference in the subjects' attitude toward the A.B.E. program by place of residence. The X^2 value of 11.269 with six degrees of freedom was not significant and is considered as a basis for accepting the null hypothesis. The alternate hypothesis H_{15} which suggests that attitudes are more favorable among subjects residing in more urbanized areas than those from more rural areas is rejected.

Summary

The data presented in this chapter have been related to the research designed to examine the attitudes and values of A.B.E. teacher trainers. The analysis has been discussed in three phases and

related to: (1) changes in cognitions and effect, (2) major value orientations, and (3) attitudes toward the A.B.E. program.

The alternate hypotheses in Phase I which were supported include:

H_1. The subjects' knowledge and understanding of the A.B.E. program will increase as a result of their participation in the institute.

H_2. The subjects' attitude toward the A.B.E. program will become more favorable as a result of their participation in the institute.

The one hypothesis in Phase I which did not receive sufficient support was:

H_3. There will be a concomitant change in the subjects' cognitions and affect as a result of their participation in the institute.

Phase II hypotheses receiving support include:

H_4. The major value orientations of the subjects will remain constant as age increases.

H_6. The major value orientations of the subjects will vary according to race.

H_7. The major value orientations of the subjects will remain constant as level of educational achievement increases.

H_8. The major value orientations of the subjects will remain constant as A.B.E. experience increases.

H_9. The major value orientations of the subjects will remain constant with variations in place of residence.

One hypothesis in Phase II was not supported:

H_5. The major value orientations of the subjects will vary according to sex.

None of the alternate hypotheses in Phase III received sufficient support. These were:

H_{10}. The subjects' attitude toward the A.B.E. program will be more favorable as age increases.

H_{11}. The subjects' attitude toward the A.B.E. program will be more favorable among females than among males.

H_{12}. The subjects' attitude toward the A.B.E. program will be more favorable among Negroes than among Caucasians.

H_{13}. The subjects' attitude toward the A.B.E. program will be more favorable as level of educational achievement increases (Results supported the reverse of this relationship).

H_{14}. The subjects' attitude toward the A.B.E. program will be less favorable as A.B.E. experience increases.

H_{15}. The subjects' attitude toward the A.B.E. program will be more favorable among the more highly urbanized residents than among the more rural residents.

DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

Introduction

The primary intent of this investigation was to examine the relationship between selected personal and situational characteristics of A.B.E. teacher trainers, their major value orientations, and their attitude toward the A.B.E. program. This study was also viewed as a means for evaluating the effectiveness of a three-week training period toward producing desirable and/or favorable changes in participants' knowledge and understanding of A.B.E. and attitudes toward the A.B.E. program.

This research was structured on a quasi-experimental basis with a "separate-sample-pretest-posttest" design. The subjects included the 95 participants in the National Teacher-Trainer Institute for Adult Basic Education conducted by the Department of Adult Education of North Carolina State University in July, 1967.

The research data were obtained by the administration of four instruments which included: (1) biographical data form, (2) cognitive inventory, (3) affective inventory, and (4) Allport et al. (1960) Study of Values test.

Certain personal and situational characteristics of the subjects were selected as the independent variables of the study and included: (1) age, (2) sex, (3) race, (4) educational achievement, (5) A.B.E. experience, and (6) location of present residence.

Discussion and Conclusions

Based upon the findings reported in the previous chapter, it may be concluded that the subjects' knowledge and understanding (cognitions) of and attitude (affect) toward the A.B.E. program did increase and/or become more favorable as a result of their participation in the three-week institute (treatment).

It appears that the 1967 Teacher-Trainer Institute was successful in the attainment of its objectives which were to provide meaningful learning experiences designed to assist the participants to increase their knowledge and understanding of the various aspects of the A.B.E. program. The extent to which the new knowledge was retained or influenced subsequent overt behavior was beyond the scope of this study.

The degree of favorable affect or attitude of the subjects toward the A.B.E. program at the conclusion of the training period was at a relatively high level as measured by the affective inventory. By the same token, their attitude at the beginning of the program may be said to have been at a high level; however, it was determined through analysis of variance that there was a significant difference between pre- and posttest attitudes. Further analysis indicated that the change was significant in the direction of a more favorable attitude.

Although it was concluded that the subjects' attitude became more favorable toward the A.B.E. program during their participation in the Teacher-Trainer Institute, the extent to which the content of the training influenced the change rather than uncontrollable events

was not determinable from available evidence and was not within the scope of the study.

The fact that the hypothesis based upon the theory of cognitive-affective consistency was rejected may be due to an inherent inadequacy of the affective inventory to be sensitive to comparable content areas or specific aspects as was the cognitive inventory. The affective inventory tended to deal with the A.B.E. program at a broad or macro level; whereas, the cognitive inventory was concerned more with specifics and may be construed as dealing at the micro level.

Based upon observations discussed in the third chapter, it was noted that the value interests of the research subjects were to some extent at variance with those held by other populations. These observations were made by comparing mean scores and were used solely for descriptive purposes.

In the preceding chapter, differences within each independent variable which were based upon the subjects' first-rank assignment (major value orientation) of the six value categories were examined. Race was the only independent variable where significant differences existed between categories. The greatest contrasts between the Caucasian and Negro first-ranked values were where more of the Caucasian subjects indicated greatest interest in the economic and political values and far more of the Negro subjects were interested in the social value.

The analysis of data indicated a lack of association between the subjects' major value orientations and sex categories as hypothesized and as indicated by the authors of the test.

The findings supported hypothesis H_6 and may partially account for the absence of significant differences within the other independent variables related to major value orientations (i.e., according to the distribution of the subjects by race as shown in Table 12, Negro subjects were found in most all of the variable categories; and their first-place ranking may have had an equalizing effect upon the distribution among the six value categories).

The Allport et al. (1960) Study of Values test has been used extensively and appears to be a reliable instrument to determine relative interests in the six value categories. It is easy to administer and score; however, it appears to have rather limited utility in research studies due to the lack of independence of scores on one value with scores on the remaining five values.

With reference to attitudinal differences within the independent variables, the only variable where significant differences were found to exist among categories was that of educational achievement. This difference, however, was in the opposite direction from that hypothesized, but the effective inventory was found to detect differences. The failure of the instrument to detect significant differences within other variables may have been due to the nature of the statements; i.e., the statements were primarily of a broad, philosophic nature rather than being more specifically related to the various components of the program. On the other hand, this failure may have been due to some equalizing effect of the institute program on the subjects' attitudes toward the A.B.E. program.

In future research efforts utilizing level-of-educational achievement as a variable, careful consideration should be given to a more discrete measure than that employed in the present study. Here, it would have been possible for a person to have earned graduate credits equivalent to that required for the Doctor's degree, but may have been categorized at the Bachelor's degree-plus-additional-credits level.

Since there is currently such a high incidence of migration, the location-of-present-residence variable may not be as appropriate in future research dealing with values as perhaps "location of residence during childhood," "type of neighborhood in which reared," etc.

Reference is again made to the phase of the study concerned with determining the major value orientations of the subjects. One will recall that significant differences existed within only one variable based upon data obtained using an established instrument. One should not then fault the affective inventory for being insensitive to the measurement of attitudes toward the A.B.E. program without giving some consideration to other social and/or psychological factors inherent within the subjects. This and certain other aspects of the findings will receive further elaboration in the following section.

Implications for Future Research

This study was primarily concerned with measuring or determining the major value orientations and attitudes of A.B.E. teacher trainers at a given point in time. Although the attitude scale developed for

use in this study was found to discriminate between individuals, it is suggested that the scale be further refined in an attempt to render it more sensitive to expressed attitudes.

Greater sensitivity might be gained by the inclusion of additional statements which pertain to more discrete elements of the A.B.E. program such as the undereducated adult learner, the teacher, the administrator, and the curriculum as well as the undergirding philosophy and objectives. Such a synthesis would appear to render the scale applicable to various positional groups rather than to those known as teacher trainers.

This study may serve as a point of departure with respect to empirical evidence concerning the values and attitudes of that cadre of personnel in charge of A.B.E. programs. Further study should be directed toward the relationships between attitudes and role performance. Some approaches might include:

A. A replication, in part, of the present study to also include a follow-up measurement of attitudes to determine the effect of additional experience.

B. A replication, in part, of the present study to determine the equalizing effect of intensive training periods on subjects' attitude (e.g., compare the relationship between changes in attitude and the independent variables from pretest to posttest).

C. A determination of the relationship between attitudes and degree of effectiveness of the incumbent of the position under investigation.

D. A determination of the predictive value of the attitude scale as related to future on-the-job effectiveness.

E. A determination of the relationships between attitudes and other social and psychological factors, i.e., job satisfaction, motivation, etc.

In future research dealing with similar periods of intensive training, one may wish to consider a research design that would permit the collection of pre- and posttest data from all participants. The additional pretest data may be more important than attempting to control for any practice effect over such an extended period of time.

It has been suggested by certain subject specialists that the A.B.E. teacher should possess a quality known simply as missionary zeal. Is this a concept that can be operationally defined? Do the A.B.E. teachers possess such a trait? What is the unique nature of an A.B.E. teacher who would teach, in most cases, youthful learners during the day and then assume the task of guiding learning experiences for undereducated adults at night? What influence does the observance of short-term, tangible results from the adult classroom have upon the A.B.E. teacher? In what ways do A.B.E. teachers differ from other elementary and secondary school teachers? What discernable differences exist between the attributes and characteristics of A.B.E. teachers who gain little tenure and those who persist in the profession? By what means can an administrator most effectively predict the future effectiveness of newly recruited A.B.E. teachers?

The above questions which are related to the unique nature and characteristics of the A.B.E. teacher have been suggested by the findings of this research and would serve as a basis for formulating problems for future research.

LIST OF REFERENCES

Adolph, T. and R. F. Whaley. 1967. Attitudes toward adult education. Adult Education. 17:152-156.

Allport, G. W., P. E. Vernon, and G. Lindzey. 1960. Study of Values. Houghton Mifflin Company, Boston.

Beamer, G. C. and Elaine W. Ledbetter. 1957. The relation between teacher attitudes and the social service interest. Journal of Educational Research. 50:655-666.

Bender, I. E. 1958. Changes in religious interest: a retest after 15 years. Journal of Abnormal and Social Psychology. 57:41-46.

Campbell, D. T. and J. C. Stanley. 1963. Experimental and quasi-experimental designs for research on teaching, pp. 171-246. In N. L. Gage (ed.), Handbook of Research on Teaching. Rand McNally and Company, Chicago.

Cantril, H. and G. W. Allport. 1933. Recent applications of the study of values. Journal of Abnormal and Social Psychology. 28:259-273.

Catton, W. R. 1959. A theory of value. American Sociological Review. 24:310-317.

Cook, W. W., N. C. Kearney, P. D. Rocchio, and A. Thompson. 1956. Significant factors in teachers' classroom attitudes. Journal of Teacher Education. 7:274:279.

Edwards, A. L. 1957. Techniques of Attitude Scale Construction. Appleton-Centry-Crofts, Inc., New York.

Getzels, J. W. and P. W. Jackson. 1963. The teacher's personality and characteristics, pp. 576-582. In N. L. Gage (ed.), Handbook of Research on Teaching. Rand McNally and Company, Chicago.

Greenleigh Associates. 1966. Field Test and Evaluation of Selected Adult Education Systems. Greenleigh Associates, Inc., New York.

Guilford, J. P. 1965. Fundamental Statistics in Psychology and Education. McGraw-Hill Book Company, Inc., New York.

Hyman, H. H. 1960. Reflections on reference groups. Public Opinion Quarterly. 24:383-396.

Johnson, R. L., R. W. Cortright, and J. V. Cooper. 1968. Attitude changes among literacy teachers coincident with training and experience. Adult Education. 18:71-80.

Katz, Daniel. 1960. The functional approach to the study of attitudes. Public Opinion Quarterly. 24:163-204.

Kelly, H. H. 1952. Two functions of reference groups, pp. 410-414. In G. E. Swanson et al. (eds.), Readings in Social Psychology. Henry Holt and Company, New York.

Kleyensteuber, C. J. 1960. Evaluative attitudes and behaviors of school administrators. Journal of Educational Research. 53:352-355.

Krech, D., R. S. Crutchfield, and E. L. Ballachey. 1962. Individual in Society. McGraw-Hill Book Company, New York.

Lecky, P. 1945. Self-Consistency: A Theory of Personality. Inland Press, New York.

Lindgren, H. C. and Gladys M. Patton. 1958. Attitudes of high school and other teachers toward children and current educational methodology. California Journal of Educational Research. 9:80-85.

Lipscomb, E. E. 1966. A study of the attitudes of student teachers in elementary education. Journal of Educational Research. 60:159-163.

Maclean, M. S., May S. Gowna, and J. C. Gowan. 1955. A teacher selection and counseling service. Journal of Educational Research. 48:669-677.

McGinnies, Elliott. 1950. Personal values as determinants of word association. Journal of Abnormal and Social Psychology. 45:28-36.

Merton, R. K. 1957. Social Theory and Social Structure. The Free Press, New York.

Newcomb, T. M. 1952. Attitude development as a function of reference groups, pp. 420-430. In G. E. Swanson et al. (eds.), Readings in Social Psychology. Henry Holt and Company, New York.

Pearch, Frank C. 1966. Characteristics of teachers and methodology in adult basic education. Stanislaus County Multi-Occupational Adult Retraining Project (Mimeographed Report). Modesto, California.

Rhyne, D. C. 1968. Attitude set, group learning and attitude change. Unpublished Ed.D. dissertation, Department of Adult Education, North Carolina State University, Raleigh.

Riley, J. W. and M. W. Riley. 1959. Mass communication and the social system, pp. 537-578. In R. K. Merton et al. (eds.), Sociology Today: Problems and Prospects. Basic Books, Inc., New York.

Rosenberg, M. J. 1960. A structural theory of attitude dynamics. Public Opinion Quarterly. 24:319-340.

Ryans, D. G. 1960. Characteristics of Teachers: Their Description, Comparison, and Appraisal. American Council of Education, Washington, D. C.

Secord, P. F. and C. W. Backman. 1964. Social Psychology. McGraw-Hill Book Company, New York.

Selltiz, Claire, Marie Jahoda, Morton Deutch, and S. W. Cook. 1964. Research Methods in Social Relations. Holt, Rinehart, and Winston, New York.

Shaw, M. E. and J. M. Wright. 1967. Scales for the Measurement of Attitudes. McGraw-Hill Book Company, New York.

Sherif, M. 1948. An Outline of Social Psychology. Harper and Brothers, New York.

Shibutani, Tamotsu. 1955. Reference groups as perspectives. American Journal of Sociology. 60:562-569.

Siegel, S. 1956. Nonparametric Statistics for the Behavioral Sciences. McGraw-Hill Book Company, New York.

Spranger, Eduard. 1928. Types of Men. Translated from 5th German edition of Lebensformen by Paul J. W. Pigors. Max Niemeyer Verlag, Halle (Saale).

Stern, G. G. 1963. Measuring noncognitive variables in research on teaching, pp. 398-447. In N. L. Gage (ed.), Handbook of Research on Teaching. Rand McNally and Company, Chicago.

Teigland, J. J. 1966. The relationship between measured teacher attitude change and certain personality characteristics. Journal of Educational Research. 60:84-85.

Thurstone, L. L. 1946. Comment. American Journal of Sociology. 52:39-50.

Whitely, P. L. 1938. The constancy of personal values. Journal of Abnormal and Social Psychology. 33:405-408.

Williams, Robin M. 1966. American Society: A Sociological Interpretation. Alfred A. Knopf, Inc., New York.

Wilson, W. J. and F. I. Nye. 1966. Some Methodological Problems in the Empirical Study of Values. Bulletin 672. Washington State University, Pullman.

APPENDICES

Appendix A. Personal and Situational Characteristics

NORTH CAROLINA STATE UNIVERSITY
Department of Adult and Community College Education

Biographical Data - Adult Basic Education

Instructions: Please respond to the following questionnaire by completing each numbered item. If you determine an item to be Not Applicable to you, please respond to it by placing an N/A in its space. This will indicate that you have not inadvertently skipped any portion of the form.

1. Name: _____
(Last) (First) (Middle Initial)

2. Address: _____
(Number and Street) (City) (State) (Zip Code)

3. Phone Number: _____ 4. County: _____
(Area Code) (Number)

5. Birth Date: _____ 6. Sex: .1___Male .2___Female
(Month) (Day) (Year) (Check One)

7. Race or Ethnic Group (Check One):

.1____Caucasian .2____Negro .3____Other_____
(Specify)

8. Marital Status (Check One):

.1____Married .3____Divorced .5____Separated

.2____Single .4____Widowed

9. Please indicate the term which best describes the location of your present residence (Check One):

.1____Urban, Central City .3____Rural Non-Farm

.2____Urban, Outside Central City .4____Rural Farm

10. Please indicate your present employment status in the A.B.E. program (Check One):

.1____Full Time .2____Part Time .3____Not Employed At Present

11. Please indicate your present classification in the A.B.E. program (Check One):

.1____A.B.E. Teacher

.2____A.B.E. Teacher Trainer

.3____A.B.E. Teacher (In Training - No Experience)

.4____A.B.E. Administrator or Supervisor

.5____Counselor

.6____Other (Specify)

_____

12. Do you have teaching or supervisory duties other than in A.B.E. (Check One)?

.1____Yes .2____No

13. Please indicate the length of time you have worked in the A.B.E. program (Check One):

.1____0 Years .3____3 to 5 Years .5____11 or More Years

.2____1 to 2 Years .4____6 to 10 Years

14. Please indicate the length of time you have taught in elementary school (Check One):

.1____0 Years .3____3 to 5 Years .5____11 or More Years

.2____1 to 2 Years .4____6 to 10 Years

15. Please indicate the length of time you have taught in secondary school (Check One):

.1____0 Years .3____3 to 5 Years .5____11 or More Years

.2____1 to 2 Years .4____6 to 10 Years

16. Please indicate the primary reason for your attending the A.B.E. institute (Check One):

.1____At my own request

.2____At my supervisor's request

.3____At my supervisor's directive

17. Please indicate your highest educational achievement (Check One):

.1___High school graduate

.2___High school plus some college

.3___Bachelor's degree

.4___Bachelor's degree plus additional credits

.5___Master's degree

.6___Master's degree plus additional credits

.7___Ph.D. or Ed.D.

.8___Other _____ (Specify)

18. What are your plans concerning the graduate-credit option (Check One):

.1___I have elected to work for graduate credit.

.2___I do not plan to work for graduate credit.

19. Please indicate the length of time since you earned your highest degree (Check One):

.1___No degree

.2___Less than one year

.3___1 to 2 Years

.4___3 to 5 Years

.5___6 to 10 Years

.6___11 to 29 Years

.7___30 or More Years

20. Have you been involved in any type of in-service training in Adult Basic Education (Check One)?

.1___Yes .2___No

21. Please indicate the primary wage earner in your household (Check One):

.1___Self .2___Spouse

22. Have you ever held or do you now hold a valid state teacher's certificate (Check One)?

.1___Yes .2___No

Thank You. Please check the form to be certain you have responded to each statement.

Appendix B. Cognitive Inventory

NORTH CAROLINA STATE UNIVERSITY
Department of Adult and Community College Education

Cognitive Inventory - Adult Basic Education

Name and Number _____

General

Please read each statement carefully and circle the correct answer as T(true) or F(false).

1. T F An adequate adult basic education program may be developed without a philosophy and objectives.

*2. T F Teachers should select reading materials for students according to established criteria.

3. T F A teacher will understand his students better if he spends time sharing experiences of the students in their environmental setting.

*4. T F Disadvantaged adults are skilled comparative buyers.

5. T F Teacher-made audio-visual aids may be more effective than commercial audio-visual aids.

6. T F Teachers should develop continuous evaluation techniques for their classes.

7. T F Evaluation is primarily to determine how well objectives have been achieved.

*8. T F Disadvantaged adults have generally experienced few successes in life.

9. T F Poor nutrition may be a cause for some students' apathy, short attention span, sleepiness in class, etc.

*10. T F Adult illiterates may better be described as functional illiterates.

11. T F Undereducated adults learn to read more easily when reading materials are closely related to their everyday interests.

---

* Denotes items selected for scoring based on item analysis.

12. T F An effective teacher uses success to stimulate further attempts to learn.

*13. T F Undereducated adults are not generally future oriented.

14. T F Students tend to repeat those responses which are pleasant and satisfying and to avoid those which are annoying.

15. T F The teacher of adults who has at his disposal a variety of techniques for reading, and a flexible attitude toward the application of them, will achieve the best results.

16. T F The teaching of reading to adult illiterates is more remedial than developmental.

*17. T F Because undereducated adults have had much experience with limited budgets, they manage the family budget shrewdly.

*18. T F The tendency to have large families has developed effective skills in child-rearing practices among the adult illiterates.

19. T F A major purpose for teaching mathematics to this population is to help them to do better consumer buying.

20. T F Planning a family budget is an excellent way of giving students practice in mathematics as well as help them get the most from their income.

*21. T F Most undereducated adults need to learn their rights as citizens.

22. T F These students should be encouraged to examine the various jobs in demand in the job market in order to have knowledge of realities in the employment picture.

23. T F A battery of occupational tests and inventories will provide a rather reliable picture of the undereducated adult's abilities.

*24. T F Many undereducated adults are aware that their appearance and grooming may be offensive to a potential employer.

25. T F Teachers must be encouraged to make use of individual and group diagnostic testing to determine areas for major teaching emphasis.

26. T F To evaluate the overall program and individual growth, students should be tested periodically with standardized tests.

27. T F Teacher made tests are more reliable for counseling than standardized tests.

Group Dynamics

28. T F Task functions are found in all groups while maintenance functions are only found in informal groups.

*29. T F Performance of the gatekeeping function forces attention on the flow in communication among members in the group.

30. T F Silent members in a group usually feel that the decision reached by the group is a good decision.

31. T F A decision that is logically right will always be psychologically right.

32. T F The laboratory method of learning is sometimes called the trial and error method of learning.

33. T F Knowledge of human relations is usually presented separate and apart from technical knowledge.

Philosophy

*34. T F Philosophizing and thinking critically about goals and means in education can help teachers and administrators to be critical of the terms they use and the meaning they attach to terms.

35. T F Philosophizing and thinking critically about goals and means in education can help teachers and administrators determine precisely how much learning takes place in a given learning situation.

36. T F Philosophizing and thinking critically about goals and means in education can help teachers and administrators to know how to deal correctly with each practical problem they are faced with in the management of the learning process.

*37. T F Philosophizing and thinking critically about goals and means in education can encourage teachers and administrators to examine educational practice according to established standards of performance.

*38. T F The adult learner usually requires a longer time to perform learning tasks, especially those involving psychomotor skills.

39. T F The adult learner is less impatient in the pursuit of learning goals.

Curriculum Development

The following statements have a number of possible answers given. Circle the number which indicates the ONE response you feel is correct.

40. The major dimensions of an adult basic education curriculum include:

    .1 Objectives and content
    .2 Teaching methods and content
    .3 Objectives, learning experiences, and plans for evaluation
    .4 Learning experiences and plans for evaluation.

*41. An adequately formulated educational objective includes:

    .1 A description of what the teacher plans to teach
    .2 An identification of the learner, behavioral change(s) to be effected in the learner, and content area in which the change is to become operative
    .3 An identification of skills to be taught to the undereducated learner
    .4 A description of methods that the A.B.E. teacher plans to use in teaching his A.B.E. class.

42. The primary sources from which objectives for the A.B.E. curriculum should be derived include:

    .1 The combined good judgment of the A.B.E. teacher and administrator
    .2 A study of the undereducated adult as a potential learner, analysis of the undereducated adult's culture, analysis of contemporary life, and recommendations of subject-matter specialists
    .3 A careful review of the latest publications prepared especially for adult basic education
    .4 Findings gleaned from research about how students learn content and skills in the several relevant subject-matter areas.

43. The major behavioral changes that adult basic education teachers seek to effect in their students may be classified as:

    .1 Skills
    .2 Attitudes
    .3 Knowledge, understanding, attitudes, and skills
    .4 Improved reading and writing skills.

Learning Laboratory

44. Which of the following best defines the "Open Door Policy" as implemented in the Learning Laboratory by the Department of Community Colleges in North Carolina?

.1 Acceptance of adults 18 years and older
.2 Acceptance of adults regardless of prior educational training
.3 Acceptance of students above the eighth grade level
.4 Only .1 and .2 above.

*45. Generally speaking, students admitted to the Learning Laboratory are considered to be:

.1 Homogeneous
.2 Heterogeneous
.3 Polygamous
.4 Monogamous.

*46. Which of the following is not considered a responsibility of the Learning Laboratory Coordinator?

.1 Interviewing students
.2 Teaching
.3 Counseling students
.4 Testing.

47. Which of the following placement inventories may be eliminated during the initial admittance into the lab?

.1 English
.2 Mathematics
.3 Reading
.4 None of the above.

*48. The individual motivation of each student in the Learning Laboratory is probably increased more as a result of:

.1 Low-level placement
.2 Individual pacing
.3 Immediate success being obtained
.4 Student setting his own schedule.

Sociological Considerations

Circle the number in the column to the right of each statement which indicates whether you agree, or disagree with, or are undecided about each statement.

		Agree	Undecided	Disagree
A.	Contemporary society may be characterized by:			
49.	Increasing occupational mobility	1	2	3
*50.	A high emphasis placed on achievement	1	2	3
*51.	A high emphasis placed on education	1	2	3
*52.	A belief in the dignity of man	1	2	3
*53.	A belief in the democratic process	1	2	3
*54.	A complex division of labor	1	2	3
55.	Deep religious convictions	1	2	3
B.	Undereducation (of adults) is related to:			
*56.	A high degree of anomia	1	2	3
*57.	Low income	1	2	3
*58.	Poor health	1	2	3
*59.	Standing in the lower class	1	2	3
*60.	High level of aspiration	1	2	3
61.	Low verbalizing in conversation	1	2	3
C.	Characteristics of low-income families include:			
62.	Close family ties	1	2	3
63.	A work orientation of getting money and spending it	1	2	3
*64.	A highly localized view of the world	1	2	3
*65.	Suspicion of outsiders	1	2	3
*66.	Dependence upon religion and expressions of emotionalism as a release and as a strength against adversity	1	2	3

67. What is meant by the term "cultural empathy" (use back of page if necessary)?

_____

_____

_____

Adult Learning

68. Briefly explain what is meant by the concept of developmental tasks (use back of page for additional space)?

_____

_____

_____

69. Briefly define "learning" (use back of page for additional space)?

_____

_____

70. - 74. List five principles of learning.

70. _____

71. _____

72. _____

73. _____

74. _____

Educational Technology

75. - 79. List five principles of programmed learning.

75. _____

76. _____

77. _____

78. _____

79. _____

Thank you. Please check the form to be certain you have responded to each item.

Appendix C. Affective Inventory

NORTH CAROLINA STATE UNIVERSITY
Department of Adult and Community College Education

Affective Inventory - Adult Basic Education

Name and number _____

Below is a list of statements concerning the A.B.E. program. Please read all statements carefully and respond to them on the basis of your opinion. Make your response to each statement by circling the number in the appropriate column which best describes the extent to which you agree or disagree with the content of the statement.

Example: If you strongly agree with the following statement, circle the number five in the column at the right.

Everyone is entitled to an education ⑤ 4 3 2 1

	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strongly Disagree 1
1. Raising the educational level of adults should primarily be a concern of private and/or religious organizations rather than public agencies	5	4	3	2	1
2. The illiterate adult had the same opportunity for an education as anybody else - so why bother about him now?	5	4	3	2	1
3. Most A.B.E. teachers are interested in the program because it is a means of supplementing their income	5	4	3	2	1
*4. A.B.E. is essential for helping the undereducated adult to get the most out of life	5	4	3	2	1

*Denotes items selected for scoring as shown based on item analysis.

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
		5	4	3	2	1
*5.	Some A.B.E. teachers may take their responsibilities lightly, but this is not a common attribute among A.B.E. teachers . .	5	4	3	2	1
*6.	The A.B.E. program offers a real challenge to its participants	5	4	3	2	1
*7.	It will take several years to get the job done, but A.B.E. will pay off in the long run	5	4	3	2	1
8.	The A.B.E. effort appears to be a waste of time and effort in most instances . . .	5	4	3	2	1
**9.	It is difficult to see how one could expect the undereducated adult to benefit from A.B.E. as it is now structured	5	4	3	2	1
10.	The desirable results of A.B.E. have not received the attention they deserve. .	5	4	3	2	1
**11.	The underlying objectives of the A.B.E. program are good but their achievement will seldom be a reality	5	4	3	2	1
**12.	A.B.E. uses public funds which would produce higher returns for society if channeled into secondary and elementary education	5	4	3	2	1
*13.	A.B.E. is one of the greatest social movements in America today	5	4	3	2	1

**Denotes items selected for reverse scoring based on item analysis.

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
		5	4	3	2	1
14.	The A.B.E. learner is usually not interested in learning even though he attends classes regularly	5	4	3	2	1
*15.	A.B.E. is aimed at the very roots of the problem of the culturally deprived	5	4	3	2	1
*16.	Society should support A.B.E. efforts because it has neglected the under-educated adult for so many years . . .	5	4	3	2	1
**17.	Too much time is spent on matters of little importance in A.B.E.	5	4	3	2	1
*18.	A.B.E. has been one of the most significant advancements in the field of education in recent years	5	4	3	2	1
19.	The teaching methods used by most A.B.E. teachers are inappropriate for use with adults	5	4	3	2	1
*20.	Most A.B.E. teachers become inspired by the potential for overall good that the A.B.E. program offers	5	4	3	2	1
**21.	The A.B.E. program is too superficial to have real social implications . . .	5	4	3	2	1
22.	The A.B.E. learner usually overrates his own ability to learn and achieve	5	4	3	2	1
23.	Though some adult students may benefit from A.B.E., most of them will not . .	5	4	3	2	1
24.	Public support for A.B.E. should be maintained at a high level even at the expense of other public programs .	5	4	3	2	1

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
		5	4	3	2	1
25.	The undereducated adult would learn just as well if he attended regular public school classes	5	4	3	2	1
26.	A.B.E. is only a stop-gap measure toward the solving of the poverty problem	5	4	3	2	1
27.	The main concern should be to provide A.B.E. classes and not bother to think about the end results	5	4	3	2	1
**28.	The extent to which the undereducated adult learns is of little concern to most A.B.E. teachers . . .	5	4	3	2	1
*29.	The A.B.E. program is a manifestation of the value society places on the individual	5	4	3	2	1
30.	Adults who enroll in A.B.E. classes are usually highly motivated to learn . .	5	4	3	2	1
31.	The A.B.E. program is fundamentally sound but I question its real value in view of the present approach . . .	5	4	3	2	1
*32.	Most of the time I feel that raising the educational level of illiterate adults is an important social movement	5	4	3	2	1
33.	The exaggerated concern for the undereducated adult is something I find distasteful	5	4	3	2	1
**34.	A.B.E. has become stagnated and has little to offer the individual participant	5	4	3	2	1
**35.	There is a need to raise the cultural level of some adults but I do not think A.B.E. will have much impact in doing so	5	4	3	2	1

		Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strongly Disagree 1
**36.	Too much money is being spent on A.B.E. for the benefit derived	5	4	3	2	1
37.	Most A.B.E. learners do not have the intellectual ability to achieve success in class	5	4	3	2	1
38.	Teachers usually find the A.B.E. learner highly motivated	5	4	3	2	1
39.	The A.B.E. program would have a greater impact on our social problems if it were given greater public support . .	5	4	3	2	1
40.	Public money could best be used in educational efforts other than A.B.E.	5	4	3	2	1
41.	The A.B.E. program is achieving its goals and objectives in most instances	5	4	3	2	1
*42.	Public support should have been given to A.B.E. years ago	5	4	3	2	1
43.	Most A.B.E. teachers don't want to go to the extra effort to become more effective with their students	5	4	3	2	1
44.	Most A.B.E. teachers quit the program before they have gained enough experience to be really effective with adult students	5	4	3	2	1
45.	The illiterate adult can learn just as well at his level as other adults at higher levels	5	4	3	2	1

Thank you. Please check the form to be certain you have responded to each item.

Appendix D. Summary of Personal and Situational Characteristics of Subjects

Appendix Table 1. Distribution of subjects according to specified age category and by sex

Age group (years)	Sex				Total	
	Male		Female			
	Number	Percent	Number	Percent	Number	Percent
34 or less	22	36	10	29	32	34
35 to 44	24	39	9	27	33	35
45 or more	15	25	15	44	30	31
Total	61	100	34	100	95	100

Appendix Table 2. Distribution of subjects according to specified marital status and by sex

Marital status	Sex				Total	
	Male		Female			
	Number	Percent	Number	Percent	Number	Percent
Married	55	91	16	47	71	75
Single	5	8	10	29	15	16
Divorced	1	1	3	9	4	4
Widowed	--	--	4	12	4	4
Separated	--	--	1	3	1	1
Total	61	100	34	100	95	100

Appendix Table 3. Distribution of subjects according to years of experience teaching in elementary school and by sex

Years experience teaching in elementary school	Sex				Total	
	Male		Female			
	Number	Percent	Number	Percent	Number	Percent
No experience	24	40	3	9	27	28
1 to 2	7	11	2	6	9	10
3 to 5	7	11	7	20	14	15
6 to 10	14	23	3	9	17	18
11 or more	9	15	19	56	28	29
Total	61	100	34	100	95	100

Appendix Table 4. Distribution of subjects according to years of experience teaching in secondary school and by sex

Years experience teaching in secondary school	Sex				Total	
	Male		Female			
	Number	Percent	Number	Percent	Number	Percent
No experience	21	34	20	59	41	43
1 to 2	10	16	4	12	14	15
3 to 5	8	13	2	6	10	10
6 to 10	15	25	3	9	18	19
11 or more	7	12	5	14	12	13
Total	61	100	34	100	95	100

Appendix Table 5. Distribution of subjects according to educational achievement and by graduate credit

Educational achievement	Graduate credit				Total	
	Yes		No			
	Number	Percent	Number	Percent	Number	Percent
High school plus some college work	2	3	4	20	6	6
Bachelor's degree	10	13	1	5	11	12
Bachelor's degree plus graduate work	38	50	4	20	42	44
Master's degree	11	15	6	30	17	18
Master's degree plus additional graduate work	14	19	5	25	19	20
Total	75	100	20	100	95	100

Appendix Table 6. Distribution of subjects according to years since highest degree and by graduate credit

Years since highest degree	Graduate credit				Total	
	Yes		No			
	Number	Percent	Number	Percent	Number	Percent
Less than 1	2	3	1	5	3	3
1 to 2	13	17	4	20	17	18
3 to 5	16	21	4	20	20	21
6 to 10	16	21	2	10	18	19
11 to 29	23	31	5	25	28	30
30 or more	3	4	--	--	3	3
No degree	2	3	4	20	6	6
Total	75	100	20	100	95	100

Appendix Table 7. Distribution of subjects according to ones holding a teaching certificate and by ones taking the course for graduate credit

Teaching certificate	Graduate credit				Total	
	Yes		No			
	Number	Percent	Number	Percent	Number	Percent
Yes	69	92	18	90	87	92
No	6	8	2	10	8	8
Total	75	100	20	100	95	100

Appendix Table 8. Distribution of subjects according to primary wage earner and by A.B.E. employment status

A.B.E. employment status	Primary wage earner				Total	
	Self		Spouse			
	Number	Percent	Number	Percent	Number	Percent
Full time	24	28	3	37	27	29
Part time	57	65	5	63	62	65
Not yet employed	6	7	--	--	6	6
Total	87	100	8	100	95	100

Appendix Table 9. Distribution of subjects according to A.B.E. employment status and by sex

A.B.E. employment status	Sex				Total	
	Male		Female			
	Number	Percent	Number	Percent	Number	Percent
Full time	20	33	7	21	27	29
Part time	36	59	26	76	62	65
Not yet employed	5	8	1	3	6	6
Total	61	100	34	100	95	100

Appendix Table 10. Distribution of subjects according to A.B.E. classification and by sex

A.B.E. classification	Sex				Total	
	Male		Female			
	Number	Percent	Number	Percent	Number	Percent
Teacher trainer	6	10	4	12	10	10
Teacher	24	39	20	59	44	46
Teacher (in training)	6	10	5	14	11	12
Administrator or supervisor	24	39	4	12	28	30
Counselor	1	2	--	--	1	1
Other	--	--	1	3	1	1
Total	61	100	34	100	95	100

Appendix Table 11. Distribution of subjects according to A.B.E. experience and by A.B.E. employment status

A.B.E. experience	Employment status							
	Full time		Part time		Not employed		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Less than 1 year	4	15	15	24	5	83	24	25
1 to 2 years	15	56	37	60	1	17	53	56
3 to 5 years	5	18	7	11	--	--	12	13
6 to 10 years	2	7	2	3	--	--	4	4
11 or more years	1	4	1	2	--	--	2	2
Total	27	100	62	100	6	100	95	100

Appendix Table 12. Distribution of subjects according to A.B.E. classification and by A.B.E. employment status

A.B.E. classification	A.B.E. employment status					
	Full time		Part time		Not yet employed	
	Number	Percent	Number	Percent	Number	Percent
Teacher trainer	4	15	5	8	1	17
Teacher	7	26	37	60	--	--
Teacher (in training)	1	4	5	8	5	83
Administrator or supervisor	14	51	14	22	--	--
Counselor	--	--	1	2	--	--
Other	1	4	--	--	--	--
Total	27	100	62	100	6	100

Appendix Table 13. Distribution of subjects according to A.B.E. classification and by ones having had previous in-service training

A.B.E. classification	In-service training				Total	
	Yes		No			
	Number	Percent	Number	Percent	Number	Percent
Teacher trainer	6	11	4	10	10	11
Teacher	29	52	15	37	44	46
Teacher (in Training)	--	--	11	28	11	12
Administrator or supervisor	18	33	10	25	28	29
Counselor	1	2	--	--	1	1
Other	1	2	--	--	1	1
Total	55	100	40	100	95	100

Appendix Table 14. Distribution of subjects according to age and by race

Age (years)	Race				Total	
	Caucasian		Negro			
	Number	Percent	Number	Percent	Number	Percent
Under 35	16	26	15	46	31	33
35 to 44	25	40	9	27	34	36
45 or more	21	34	9	27	30	31
Total	62	100	33	100	95	100

Appendix Table 15. Distribution of subjects according to state and by race

State	Race				Total	
	Caucasian		Negro			
	Number	Percent	Number	Percent	Number	Percent
District of Columbia	1	1	7	21	8	8
Kentucky	11	18	1	3	12	13
Maryland	6	10	6	18	12	13
North Carolina	7	11	11	34	18	19
Puerto Rico	13	21	--	--	13	14
Virginia	13	21	6	18	19	20
Virgin Islands	--	--	2	6	2	2
West Virginia	11	18	--	--	11	11
Total	62	100	33	100	95	100

Appendix Table 16. Distribution of subjects according to state and by place of residence (type of community)

State	Type of community								Total	
	Urban, central city		Urban, outside central		Rural non-farm		Rural farm			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
District of Columbia	5	16	3	13	--	--	--	--	8	8
Kentucky	2	6	3	13	4	15	2	14	12	13
Maryland	3	10	4	17	6	22	--	--	12	13
North Carolina	8	26	2	9	4	15	4	29	18	19
Puerto Rico	6	20	5	22	1	4	1	7	13	14
Virginia	5	16	3	13	7	26	4	29	19	20
Virgin Islands	2	6	--	--	--	--	--	--	2	2
West Virginia	--	--	3	13	5	18	3	21	11	11
Total	31	100	23	100	27	100	14	100	95	100

ERIC Clearinghouse
MAY 18 1971
on Adult Education